

TRAFFIC IMPACT STUDY

For

Owl Place Commercial
El Paso County, Colorado
PCD File No. CR221

June 2022
Revised:
January 2023

Prepared for:

First Cup
106 S Kyrene Road, Suite 2
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Prepared by:



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Fred Lantz, PE



Traffic Engineer's Statement

The attached traffic report and supporting information were prepared under my responsible charge and they comport with the standard of care. So far as is consistent with the standard of care, said report was prepared in general conformance with the criteria established by the County for traffic reports.



Fred Lantz, P.E. #23410

01/13/2023
Date

Developer's Statement

I, the Developer, have read and will comply with all commitments made on my behalf within this report.

Brian Zurek
First Cup
106 S Kyrene Road, Suite 2
Chandler, AZ 85226

Date



please sign

Signature added.

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I. Introduction

Project Overview

This traffic impact study is provided as a planning document and addresses the capacity, geometric, and control requirements associated with the development entitled Owl Place Commercial.

This traffic impact study has been revised to address County review comments made to the September 2022 version of the traffic impact study regarding updated analysis pursuant to additional planned roadway improvements with corresponding revisions to figures and tables pursuant to the latest conceptual site plan.

This proposed commercial development consists of various potential uses including a gas station convenience store, coffee/donut shop with drive-through window, automated car wash, and quick-serve restaurants. The development is located at the southwest corner of the intersection of Meridian Road with Owl Place in El Paso County, Colorado.

Study Area

The study area to be examined in this analysis encompasses Meridian Road between the intersections of Bent Grass Meadows Drive and E Woodmen Road.

Figure 1 illustrates location of the site and study intersections.

Site Description

Land for the development is currently occupied by a single-family dwelling unit and is surrounded by a mix of residential, commercial, and open space land uses.

The proposed development is conceptual and no specific land uses have been determined. However, for purposes of this analysis, there is assumed to be construction for an approximate 5,300 square foot gas station convenience store supporting up to 12 vehicle fueling positions, an approximate 2,000 square foot coffee/donut shop with drive-through window, a 4,170 square foot automated car wash with one wash tunnel, and an approximate 3,420 square foot high-turnover quick-serve restaurant.

Proposed access to the development is conceptual but is anticipated to include the following locations: three full-movement accesses onto planned extension of Falcon Market Place (referred to as Accesses A, B, and C).

A conceptual sight distance exhibit, illustrating approximate intersection sight distance triangles for site accesses, is included for reference in Appendix F. This two-dimensional exhibit does not consider the potential for landscaping or utility obstructions and is provided for illustrative purposes only.

For purposes of this study, it is anticipated that development construction would be completed by end of Year 2024. General site and access locations are shown on Figure 1.

A conceptual site plan, as prepared by Baseline Engineering Corporation, is shown on Figure 2. This plan is provided for illustrative purposes only.



Not to Scale



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Figure 1
SITE LOCATION

January 2023
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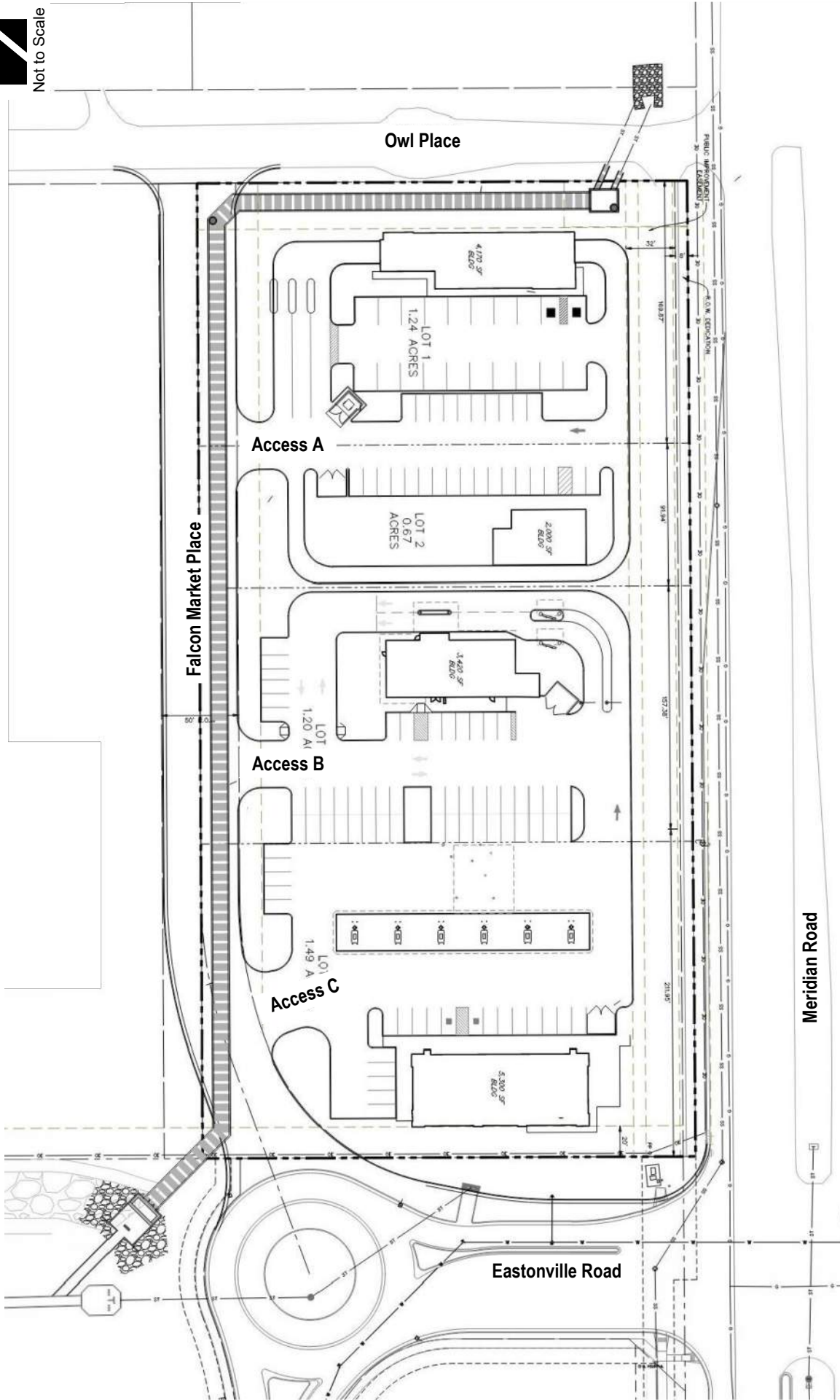


Figure 2
CONCEPTUAL SITE PLAN
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Existing and Committed Surface Transportation Network

Within the study area, Meridian Road is the primary roadway that will accommodate traffic to and from the proposed development. The secondary roadways include E Woodmen Road, Eastonville Road, Owl Place (interim), Bent Grass Meadows Drive, Falcon Market Place, and Meridian Park Drive. A brief description of each roadway, based on the County’s 2040 Major Transportation Corridors Plan (MTCP)¹ and Engineering Criteria Manual (ECM)², is provided below:

Meridian Road is a north-south principal arterial roadway having four through lanes (two lanes in each direction) with exclusive turn lanes at the intersections within the study area. Meridian Road provides a posted speed limit of 55 MPH.

E Woodmen Road is an east-west principal arterial roadway having four through lanes (two lanes in each direction) with exclusive turn lanes at the intersection within the study area. E Woodmen Road provides a posted speed limit of 55 MPH.

Eastonville Road is an east-west arterial roadway having two through lanes (one lane in each direction) with a combination of shared and exclusive turn lanes at the intersection within the study area. Eastonville Road provides a posted speed limit of 35 MPH.

Owl Place (interim) is an east-west unpaved roadway having Text updated. lanes (one lane in each direction) with an exclusive right turn lane at the intersection within the study area. Owl Place is unclassified in County’s MTCP. However, per Standard Drawing 2-10 of County ECM and the roadway’s estimated ROW width, Owl Place is assumed to be classified as a local roadway and provides a posted speed limit of 30 MPH.

clarify where

Bent Grass Meadows Drive is an east-west collector roadway having two through lanes (one lanes in each direction) with exclusive turn lanes at the intersections within the study area. Bent Grass Meadows Drive provides a posted speed limit of 35 MPH.

Falcon Market Place is a recently constructed north-south roadway have two through lanes (one lane in each direction) with shared turn lanes within the study area. Falcon Market Place is unclassified in County’s MTCP. However, per Standard Drawing 2-10 of County ECM and the roadway’s estimated ROW width, Falcon Market Place is assumed to be classified as a local roadway and provides a posted speed limit of 25 MPH.

Meridian Park Drive is a north-south roadway have two through lanes (one lane in each direction) with shared turn lanes within the study area. Meridian Park Drive is unclassified in County’s MTCP. However, per Standard Drawing 2-10 of County ECM and the roadway’s estimated ROW width, Meridian Park Drive is assumed to be classified as a local roadway and provides a posted speed limit of 25 MPH.

It is a non-residential collector with non-standard cross-section
Assumed classification updated.

State whether it will be a Collector upon further area development
Additional detail added.

¹ El Paso County 2016 Major Transportation Corridors Plan Update, Felsburg Holt & Ullevig, December 2016.
² El Paso County Engineering Criteria Manual, El Paso County, December 2016.

What does latest Bent Grass Commercial TIS say?

The approved TIS for Bent Grass East Commercial also appears to assume a local classification with 25 MPH speed limit. Additional wording added.

The study intersections of Meridian Road with E Woodmen Road, Eastonville Road, and Bent Grass Meadows Drive are signalized. All other study intersections operate under a stop-controlled condition. A stop-controlled intersection is defined as a roadway intersection where vehicle rights-of-way are controlled by one or more “STOP” signs.

It is noted that signal installation at Eastonville Road and Meridian Road is a recent occurrence with associated extension of Eastonville Road west of Meridian Road. Due to the ongoing development within the area, the newly constructed west leg of the study intersection was observed to experience low volumes associated with construction traffic only. Therefore, for analysis purposes, the study intersection is assumed to not currently operate at its anticipated capacity and was considered to operate as a three-leg stop-controlled intersection for existing conditions only

Pursuant to adjacent ongoing development plans, it is anticipated that Falcon Market Place will be extended north of Eastonville Road with connection to Meridian Park Drive north of Owl Place. Specific timing details of when this extension may occur are subject to change, however pursuant to County review comments, it is assumed that this extension may occur as early as Year 2024 background traffic conditions. Additionally, it is understood that pursuant to the extension of Falcon Market Place north of Owl Place, the Owl Place intersection with Meridian Road will be restricted to a right-in/right-out only access, with potential for closure. For analysis purposes, it is assumed that access restriction will occur by Year 2024. Analysis considering the closure of the Owl Place and Meridian Road access intersection is provided as an Additional Analysis in Section VII.

In reference to the County’s MTCP, E Woodmen Road is planned to become an expressway by Year 2040 with widening to six through lanes west of Golden Sage Road. Additionally, pursuant to the Briargate Parkway-Stapleton Road Corridor Preservation Plan³ (CPP) and Access Control Plan⁴ (ACP), Meridian Road is anticipated to be widened to a six-lane principal arterial roadway by Year 2060. The remaining study area roadways appear to be built to their ultimate cross-sections excluding potential improvements required due to the proposed development.

³ Corridor Preservation Plan Briargate Parkway/Stapleton Road Corridor Study, Wilson & Company, January 2022.

⁴ Briargate Parkway-Stapleton Road Corridor Study Appendix D: Access Control Plan Draft, El Paso County Department of Public Works, December 2021.

II. Existing Traffic Conditions

Morning (AM) and afternoon (PM) peak hour traffic counts were collected at the intersections of Meridian Road with E Woodmen Road, Eastonville Road, and Owl Place. Counts were collected on June 1, 2022, with AM peak hour counts being collected during the period of 7:00 a.m. to 9:00 a.m. and PM peak hour counts being collected during the period of 4:00 p.m. to 6:00 p.m.

Peak hour traffic counts and 24-hour traffic volumes shown for Meridian Road and the intersections of Bent Grass Meadows Drive with Meridian Road and Meridian Park Drive were obtained from a previous traffic study⁵. Referenced counts were collected on March 29, 2022.

Additional 24-hour traffic volumes shown along Meridian Road and Meridian Park Drive were estimated based on adjacent peak hour intersection volumes and the percent difference in cumulative traffic volumes along each roadway section between intersections. It is noted that a typical ratio between peak hour volumes and 24-hour volumes may be applied which assumes that morning peak hour traffic represents approximately eight percent of daily traffic volumes, and afternoon peak hour traffic represents approximately ten percent of daily traffic volumes. Estimated 24-hour volumes were then rounded to the nearest ten vehicles due to the variability of daily traffic.

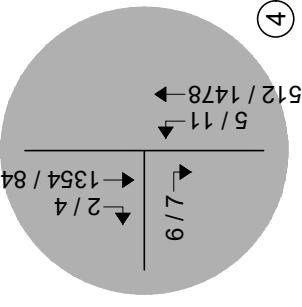
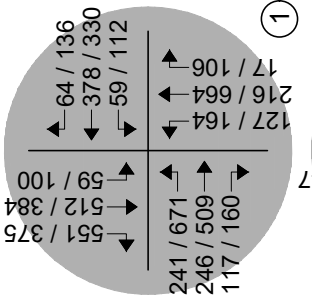
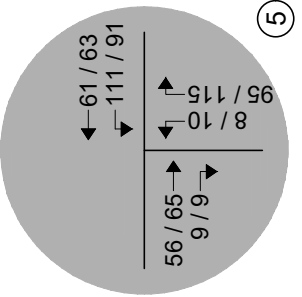
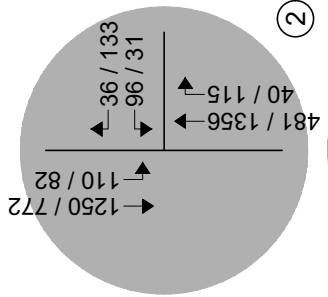
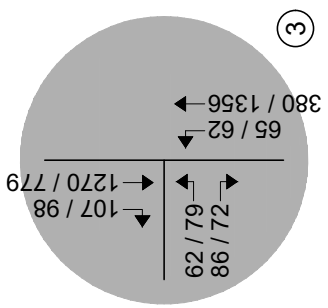
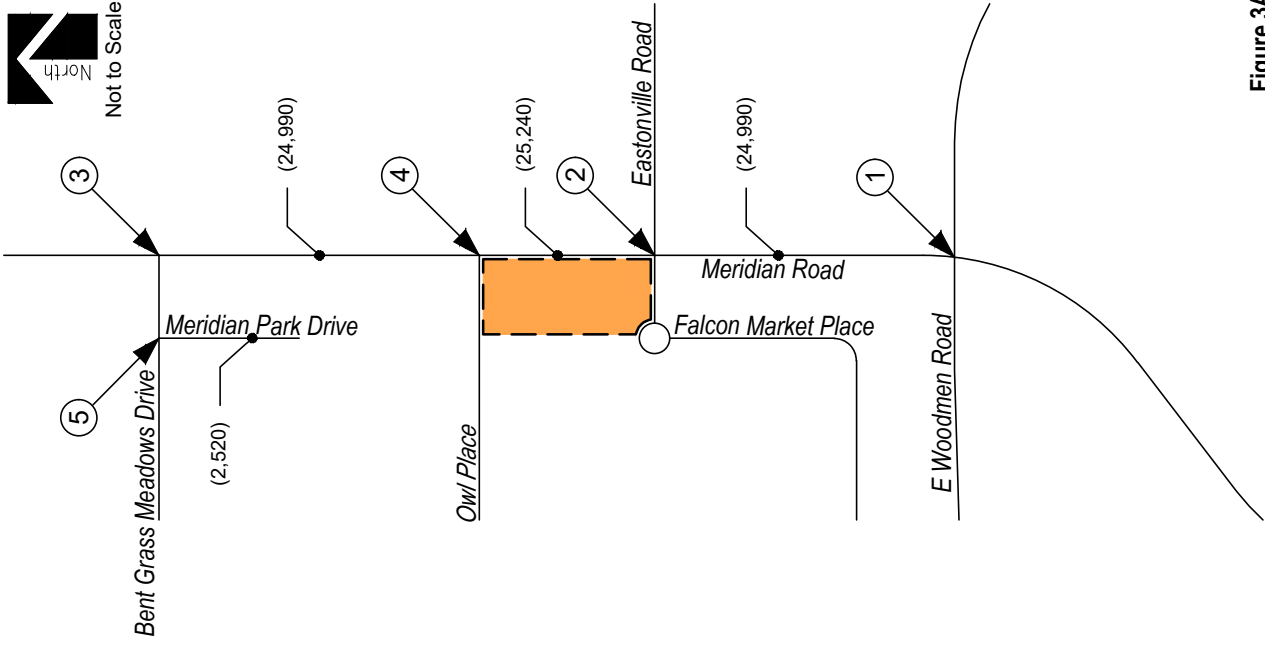
Newly collected and referenced counts representing existing traffic volumes, are shown on Figure 3A. Existing intersection geometries are shown on Figure 3B.

Existing signal timing parameters for the intersections of Meridian Road with E Woodmen Road and Bent Grass Meadows Drive were obtained from County Staff and used throughout this study to the best extent possible in order to remain consistent with existing signal coordination plans. County signal timing information received is included for reference in Appendix A.

⁵ Bent Grass Dunkin' Donuts, SM ROCHA, LLC, April 2022.



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LEGEND

- Study Intersection
- Volumes
- Development Site

Figure 3A
EXISTING TRAFFIC
 Volumes
 AM / PM Peak Hour
 (ADT) : Average Daily Traffic

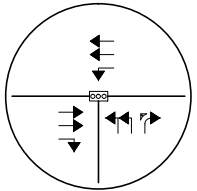
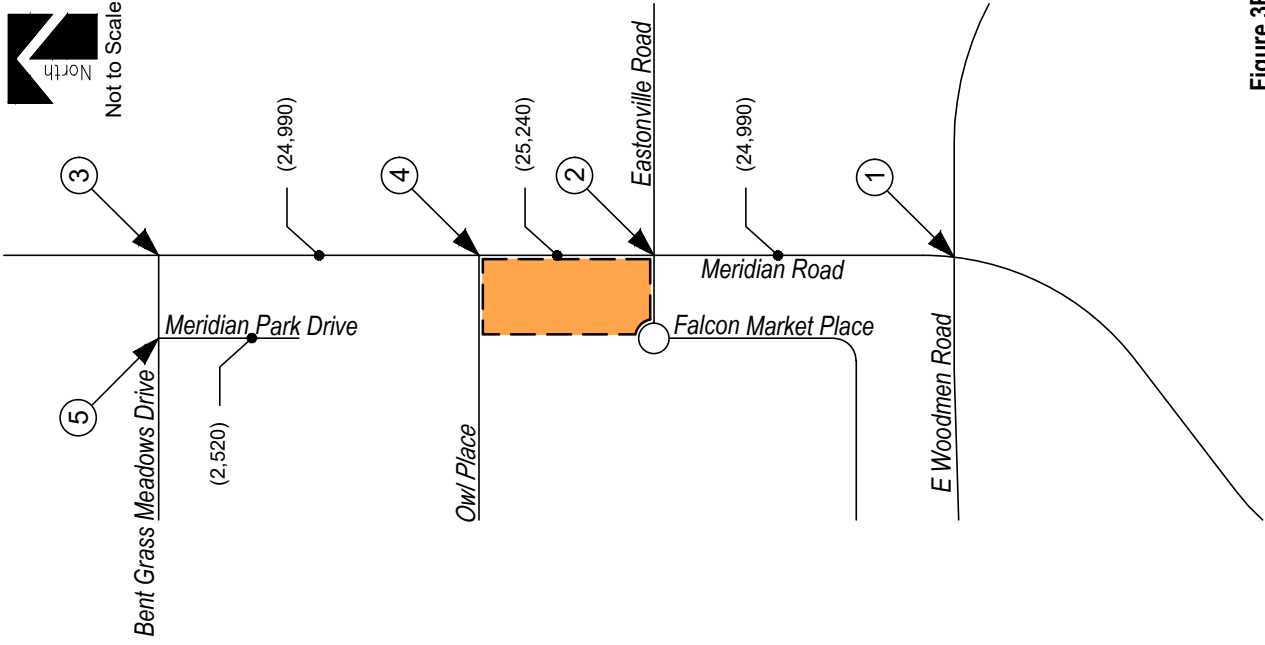
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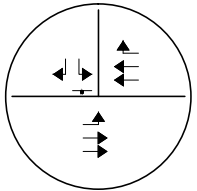
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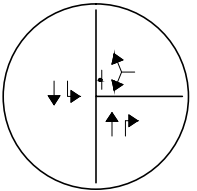
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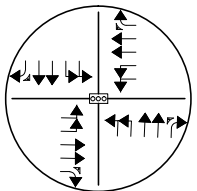
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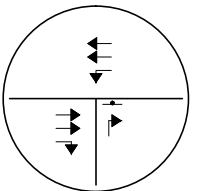
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LEGEND

-  Study Intersection
-  Lane Geometry
-  Development Site

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Figure 3B
EXISTING TRAFFIC
Intersection Geometry
AM / PM Peak Hour
(ADT) : Average Daily Traffic

Peak Hour Intersection Levels of Service – Existing Traffic

The Signalized and Unsignalized Intersection Analysis techniques, as published in the Highway Capacity Manual (HCM), 6th Edition, by the Transportation Research Board and as incorporated into the SYNCHRO computer program, were used to analyze the study intersections for existing and future traffic conditions. These nationally accepted techniques allow for the determination of intersection level of service (LOS) based on the congestion and delay of each traffic movement.

Level of service is a method of measurement used by transportation professionals to quantify a driver's perception of travel conditions that include travel time, number of stops, and total amount of stopped delay experienced on a roadway network. The HCM categorizes level of service into a range from "A" which indicates little, if any, vehicle delay, to "F" which indicates a level of operation considered unacceptable to most drivers. These levels of service grades with brief descriptions of the operating condition, for unsignalized and signalized intersections, are included for reference in Appendix B and have been used throughout this study.

The level of service analyses results for existing conditions are summarized in Table 1.

Intersection capacity worksheets developed for this study are provided in Appendix C.

Table 1 – Intersection Capacity Analysis Summary – Existing Traffic

INTERSECTION LANE GROUPS	LEVEL OF SERVICE	
	AM PEAK HOUR	PM PEAK HOUR
Meridian Road / E Woodmen Road (Signalized)	C (30.5)	D (37.8)
Meridian Road / Bent Grass Meadows Drive (Signalized)	A (9.9)	A (7.6)
Meridian Road / Eastonville Road (Stop-Controlled)		
Westbound Left	B	F
Westbound Right	A	B
Southbound Left	A	B
Meridian Road / Owl Place (Stop-Controlled)		
Eastbound Right	B	A
Northbound Left	A	A
Bent Grass Meadows Drive / Meridian Park Drive (Stop-Controlled)		
Westbound Left	A	A
Northbound Left and Right	A	A

Key: Signalized Intersection: Level of Service (Control Delay in sec/v eh)
Stop-Controlled Intersection: Level of Service

Existing Traffic Analysis Results

Under existing conditions, operational analysis shows that the signalized intersection of Meridian Road with E Woodmen Road has overall operations at LOS C during the morning peak traffic hour and LOS D during the afternoon peak traffic hour.

The signalized intersection of Meridian Road with Bent Grass Meadows Drive has overall operations at LOS A during both the morning and afternoon peak traffic hours.

The unsignalized intersection of Meridian Road with Eastonville Road has turning movement operations at or better than LOS B during either peak traffic hour. Exceptions would include the westbound left turning movement which operates at LOS F during the PM peak traffic hour. The LOS F operation is attributed to the high through traffic volumes along Meridian Road and the stop-controlled nature of the intersection. However, as previously discussed, given the recent signalization of the study intersection, actual operations are expected to be better than shown.

The unsignalized intersection of Meridian Road with Owl Place has turning movement operations at or better than LOS B during the morning peak traffic hour and LOS A during the afternoon peak traffic hour.

The unsignalized intersection of Bent Grass Meadows Drive with Meridian Park Drive has turning movement operations at LOS A during both the morning and afternoon peak traffic hours.

It is to be noted that it is not uncommon for unsignalized movements to or from an arterial roadway, in urban areas, to operate with noticeable delays during peak traffic hours.

III. Future Traffic Conditions Without Proposed Development

Background traffic is the traffic projected to be on area roadways without consideration of the proposed development. Background traffic includes traffic generated by development of vacant parcels in the area.

To account for projected increases in background traffic for Years 2024 and 2040, a compounded annual growth rate was determined using population growth estimates provided by the Pikes Peak Area Council of Governments' (PPACG) 2045 Long Range Transportation Plan⁶ which anticipates a 20-year growth rate of less than two percent. Therefore, in order to provide for a conservative analysis, a growth rate of two percent was applied to existing traffic volumes.

To account for projected traffic from adjacent developments not yet built, trip generations from the previously prepared Falcon Marketplace Traffic Impact Analysis⁷, provided by the County's Electronic Development Application Review Program (EDARP), were added to background traffic volumes. It is noted that additional ongoing development is anticipated to the north of the proposed development site, however these additional developments are anticipated to generate minor traffic volumes and therefore are considered to be already accounted for within the applied two percent annual growth rate.

Pursuant to the proposed and committed area roadway improvements discussed in Section I, Year 2024 and Year 2040 background traffic conditions assume the completion of the Falcon Market Place extension north to Meridian Park Drive as well as the restriction of the Owl Place intersection with Meridian Road to right-in/right-out only. Year 2040 also assumes signal timing parameters for the Meridian Road intersections with optimized intersection splits in effort to better long-term intersection performance.

Projected background traffic volumes for Years 2024 and 2040 are shown on Figures 4A and Figure 5A, respectively. Intersection geometries for study intersections under background traffic conditions are shown on Figures 4B and 5B.

If this is different from the existing timing parameters state that the corridor timing study will need to be updated to confirm any changes.

Noted. Additional detail added.

The rezoning of the 3 surrounding parcels will not result in minor volumes. Coordinate with that traffic study and ensure that the background traffic and total traffic reflects this.

Noted. The use of "minor" was specific to the adjacent self-storage proposed to the north of the development. The TIS for said self-storage does not show substantial trip generation. Background volumes reassessed to ensure accurate accounting for Bent Grass East Commercial development.

⁶ Moving Forward 2045: Pikes Peak Area Regional Transportation Plan, PPACG, January 2020.

⁷ Falcon Marketplace Traffic Impact Analysis, LSC Transportation Consultants Inc., September 2018.

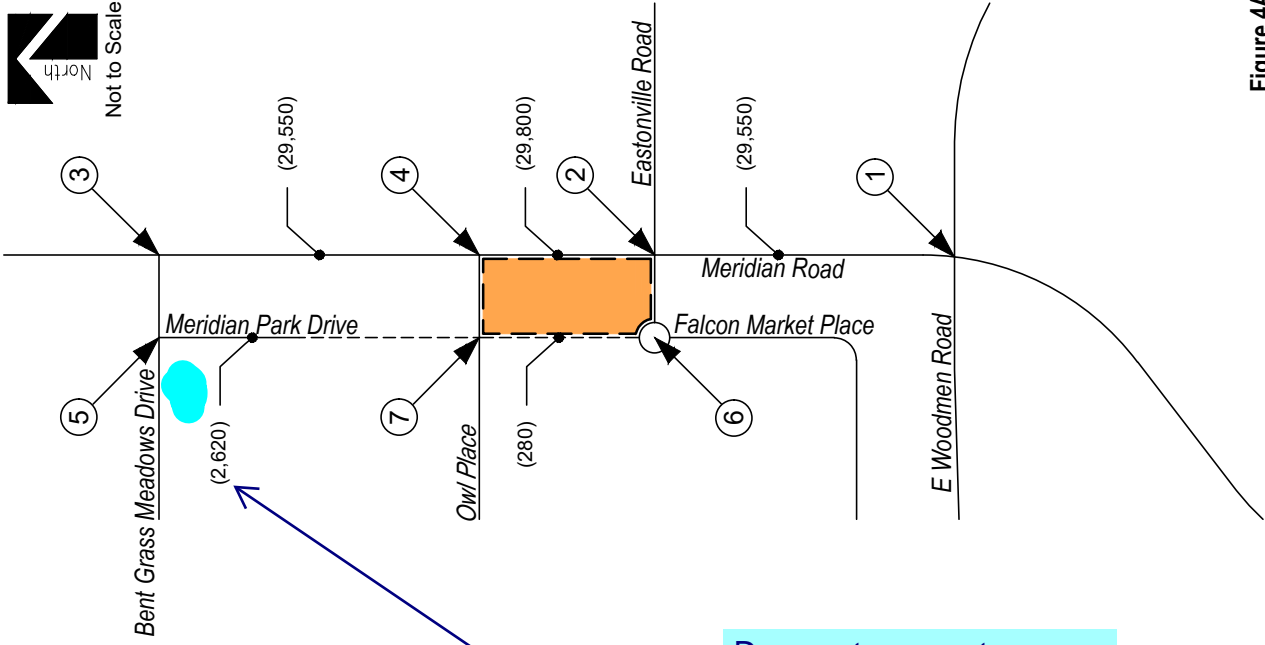
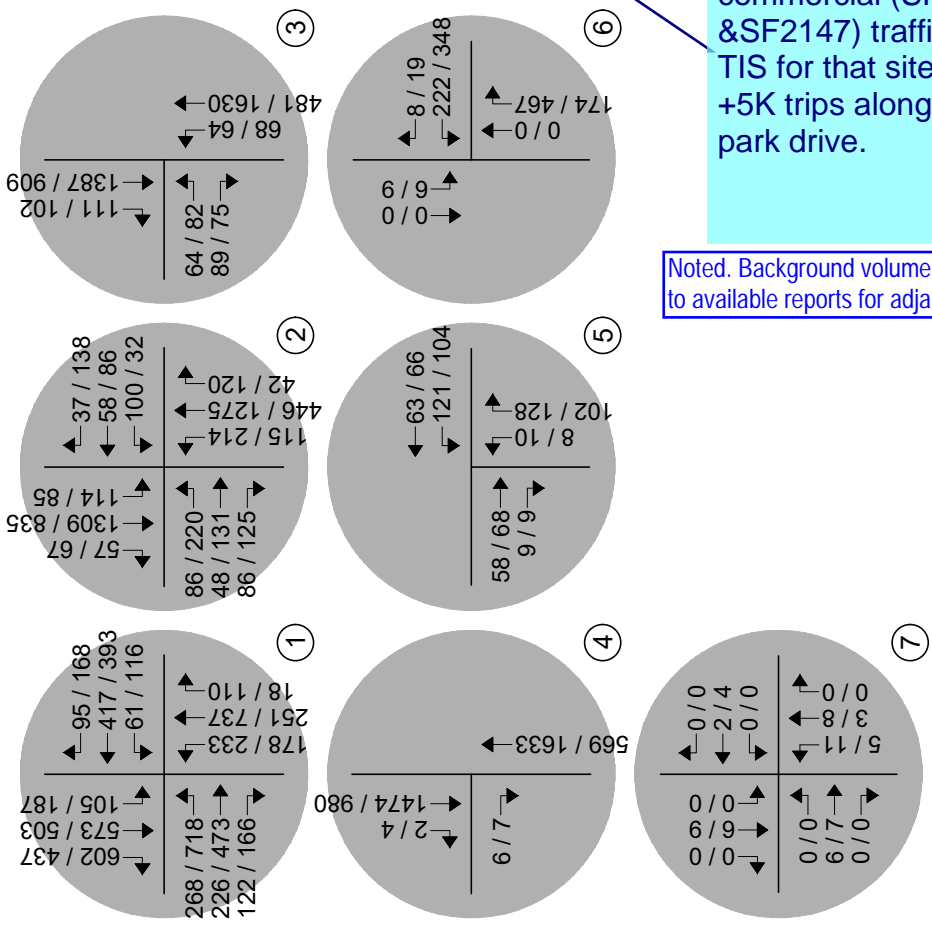


Figure 4A
BACKGROUND TRAFFIC - YEAR 2024
 Volumes
 AM / PM Peak Hour
 (ADT) : Average Daily Traffic



Does not appear to account for traffic from approved Bent Grass east commercial (SP2010 & SF2147) traffic as the TIS for that site indicates +5K trips along meridian park drive.

Noted. Background volumes reassessed pursuant to available reports for adjacent developments.

LEGEND

- Study Intersection
- Volumes
- Development Site



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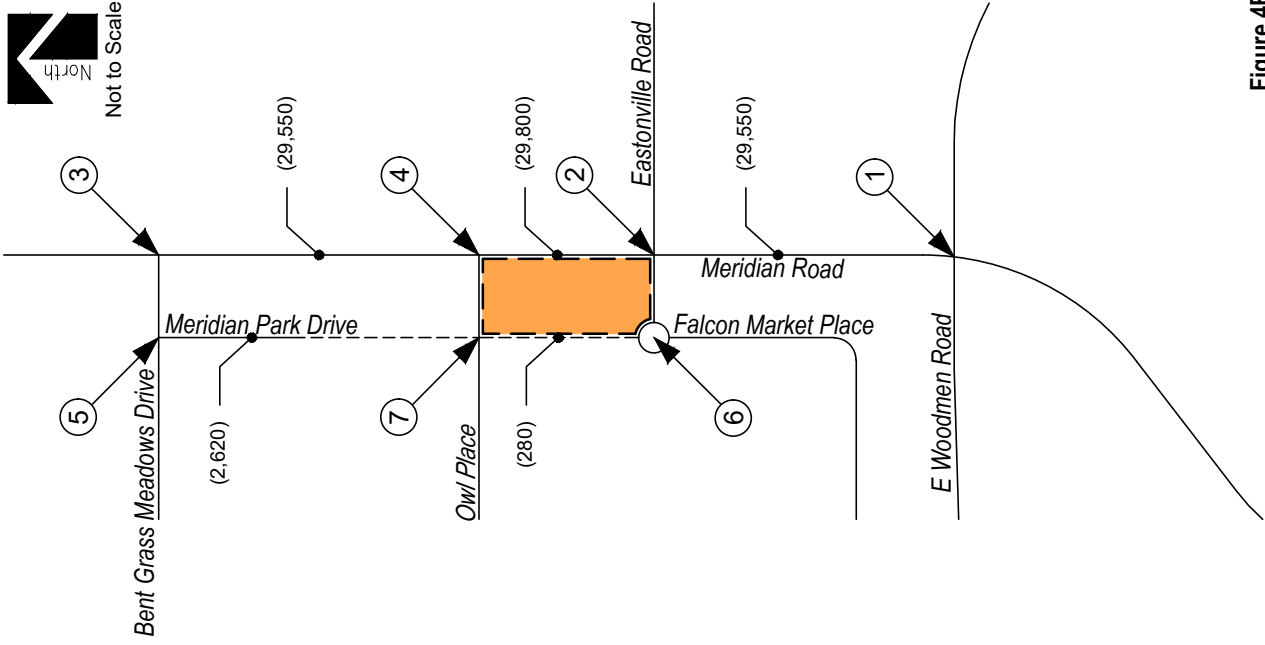
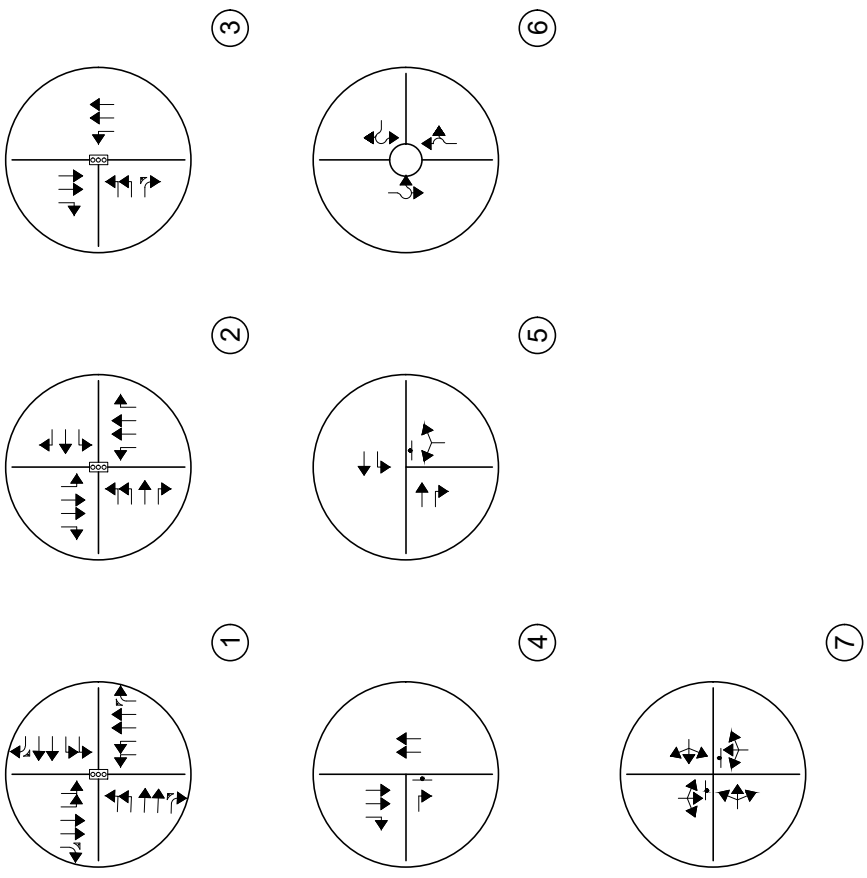





Figure 4B
BACKGROUND TRAFFIC - YEAR 2024
 Intersection Geometry
 AM / PM Peak Hour
 (ADT) : Average Daily Traffic



LEGEND

-  Study Intersection
-  Lane Geometry
-  Development Site



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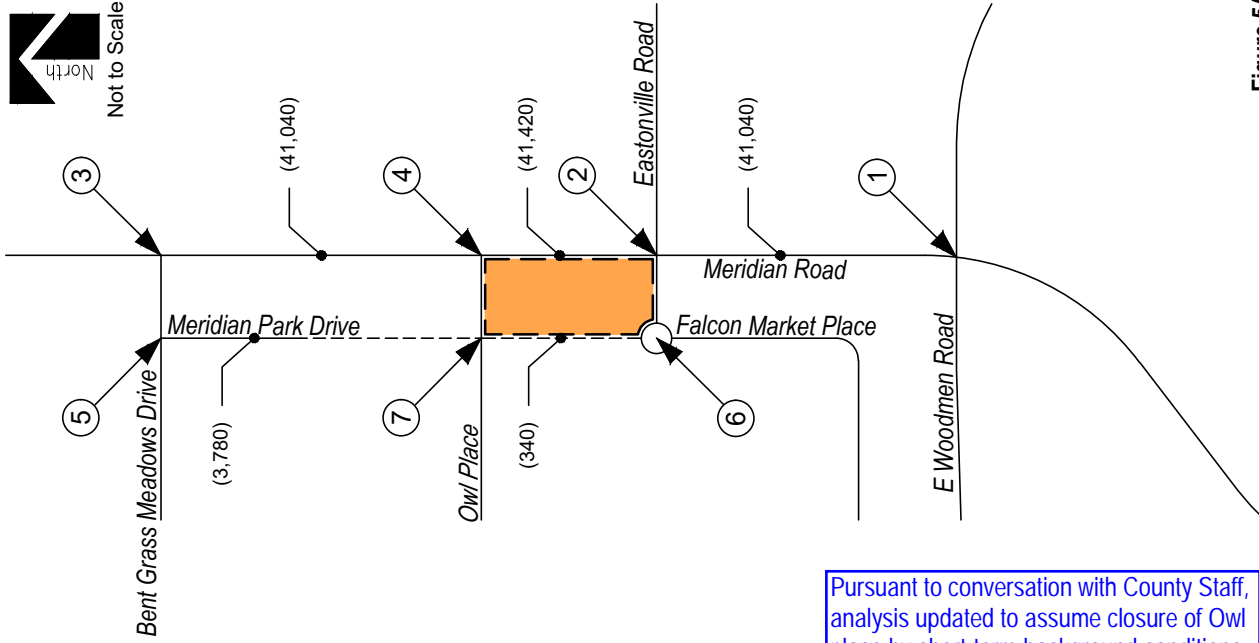


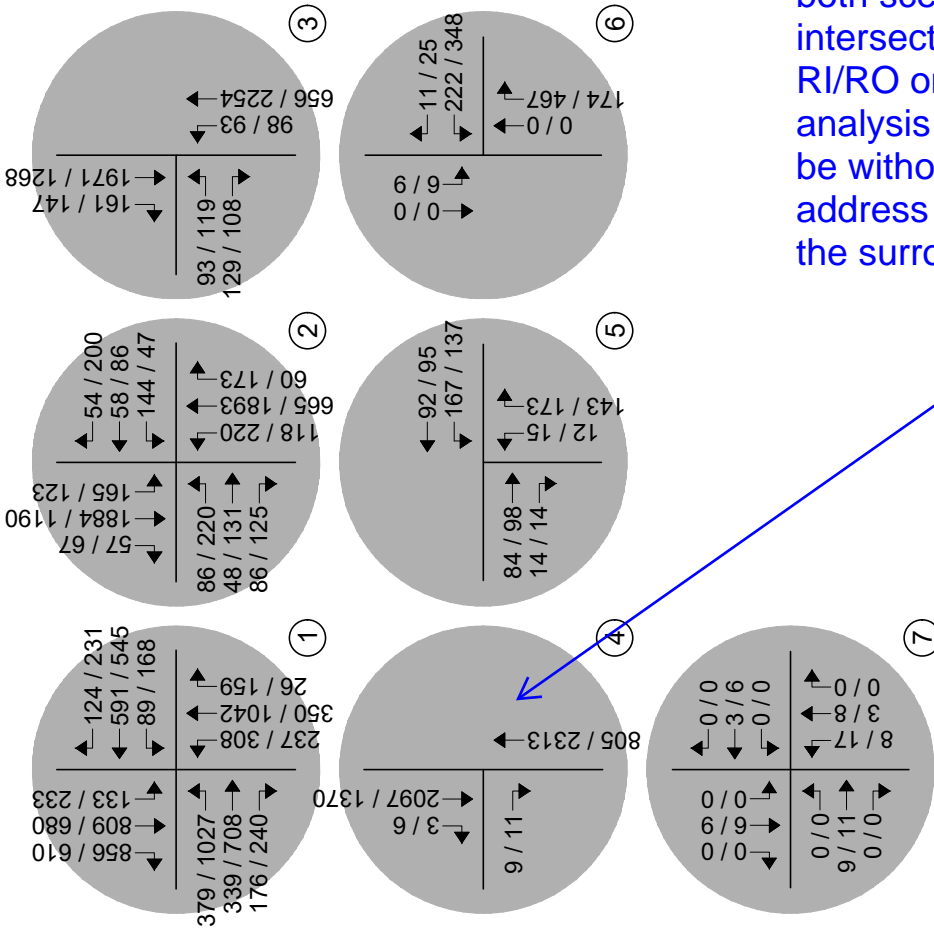
Figure 5A
BACKGROUND TRAFFIC - YEAR 2040
 Volumes

AM / PM Peak Hour
 (ADT) : Average Daily Traffic

January 2023
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Pursuant to conversation with County Staff, analysis updated to assume closure of Owl place by short-term background conditions in order to present the worst-case scenario.

Staff requested analyses with both scenarios where this intersection is closed or RI/RO only. If only one analysis is provided it should be without the RI/RO to address potential effects on the surrounding intersections.



LEGEND

- Study Intersection
- Development Site

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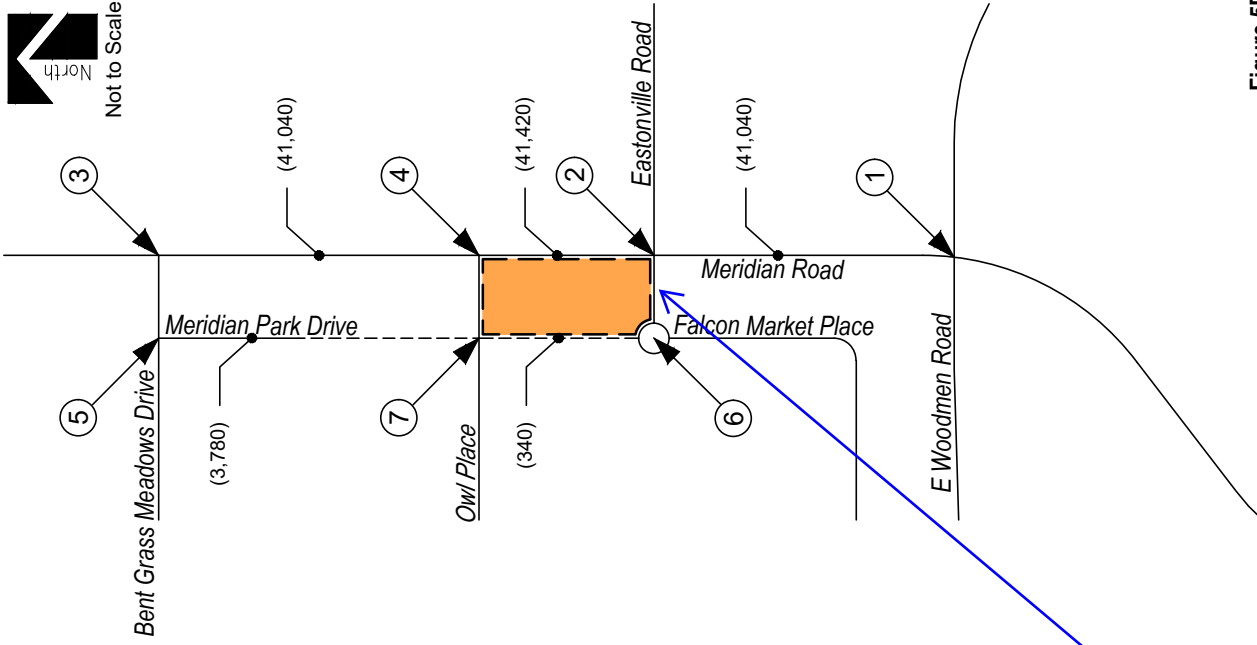
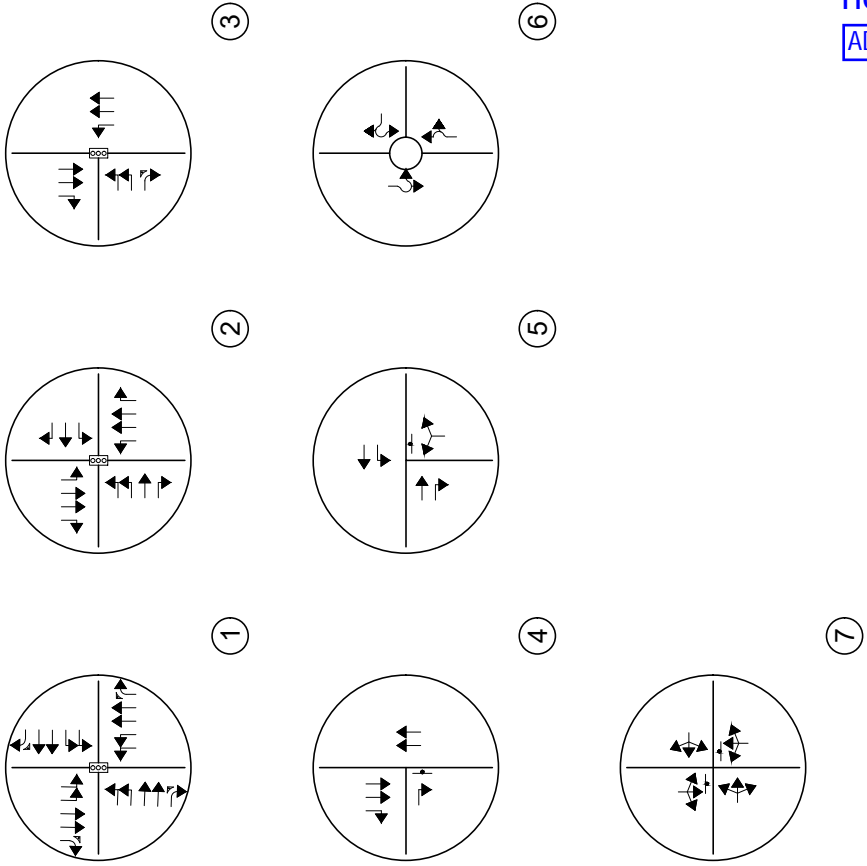





Figure 5B
BACKGROUND TRAFFIC - YEAR 2040
 Intersection Geometry
 AM / PM Peak Hour
 (ADT) : Average Daily Traffic



Provide link ADT here on all figures
 ADT added.

LEGEND

-  Study Intersection
-  Lane Geometry
-  Development Site



Peak Hour Intersection Levels of Service – Background Traffic

As with existing traffic conditions, the operations of study intersections were analyzed under background conditions, without the proposed development, using the SYNCHRO computer program.

Background traffic level of service analysis results for Year 2024 are listed in Table 2. Year 2040 operational results are summarized in Table 3.

Definitions of levels of service are given in Appendix B. Intersection capacity worksheets are provided in Appendix C.

Table 2 – Intersection Capacity Analysis Summary – Background Traffic – Year 2024

INTERSECTION LANE GROUPS	LEVEL OF SERVICE	
	AM PEAK HOUR	PM PEAK HOUR
Meridian Road / E Woodmen Road (Signalized)	C (31.6)	D (45.0)
Meridian Road / Eastonville Road (Signalized)	D (35.5)	C (23.4)
Meridian Road / Bent Grass Meadows Drive (Signalized)	B (10.2)	A (5.9)
Meridian Road / Owl Place (Stop-Controlled) Eastbound Right	B	B
Bent Grass Meadows Drive / Meridian Park Drive (Stop-Controlled) Westbound Left	A	A
Northbound Left and Right	A	A
Eastonville Road / Falcon Market Place (Roundabout) Eastbound Left and Right	A	A
Northbound Through and Right	A	A
Southbound Left and Through	A	A
Owl Place / Falcon Market Place (Stop-Controlled) Eastbound Left, Through and Right	A	A
Westbound Left, Through and Right	A	A
Northbound Left, Through and Right	A	A
Southbound Left, Through and Right	A	A

Key: Signalized Intersection: Level of Service (Control Delay in sec/veh)
 Stop-Controlled Intersection: Level of Service
 Roundabout Intersection: Level of Service

Unresolved previous comment - analyze only as right-in/right-out and closed for all horizons except existing.

Background Traffic Analysis Results – Year 2024

Year 2024 background traffic analysis indicates that the signalized E Woodmen Road has overall operations at LOS C during the AM and the PM peak traffic hour.

Pursuant to conversation with County Staff, analysis updated to assume closure of Owl place by short-term background conditions in order to present the worst-case scenario.

The signalized intersection of Meridian Road with Eastonville Road has overall operations at LOS D during the AM peak traffic hour and LOS C during the PM peak traffic hour.

The signalized intersection of Meridian Road with Bent Grass Meadows Drive has overall operations at LOS B during the AM peak traffic hour and LOS A during the PM peak traffic hour.

The unsignalized intersection of Meridian Road with Owl Place operates at LOS B during both AM and PM peak traffic periods.

The unsignalized intersection of Bent Grass Meadows Drive with Meridian Park Drive operates at LOS A during both AM and PM peak traffic periods.

The roundabout intersection of Eastonville Road with Falcon Market Place operates at LOS A during both AM and PM peak traffic periods.

The unsignalized intersection of Owl Place with Falcon Market Place operates at LOS A during both AM and PM peak traffic periods.

Table 3 – Intersection Capacity Analysis Summary – Background Traffic – Year 2040

INTERSECTION LANE GROUPS	LEVEL OF SERVICE	
	AM PEAK HOUR	PM PEAK HOUR
Meridian Road / E Woodmen Road (Signalized)	D (39.1)	F (86.9)
Meridian Road / Eastonville Road (Signalized)	D (39.4)	C (29.6)
Meridian Road / Bent Grass Meadows Drive (Signalized)	B (19.6)	B (11.9)
Meridian Road / Owl Place (Stop-Controlled) Eastbound Right	C	B
Bent Grass Meadows Drive / Meridian Park Drive (Stop-Controlled) Westbound Left	A	A
Northbound Left and Right	B	B
Eastonville Road / Falcon Market Place (Roundabout) Eastbound Left and Right	A	A
Northbound Through and Right	A	A
Southbound Left and Through	A	A
Owl Place / Falcon Market Place (Stop-Controlled) Eastbound Left, Through and Right	A	A
Westbound Left, Through and Right	A	A
Northbound Left, Through and Right	A	A
Southbound Left, Through and Right	A	A

Key: Signalized Intersection: Level of Service (Control Delay in sec/v eh)

Stop-Controlled Intersection: Level of Service

Roundabout Intersection: Level of Service

Background Traffic Analysis Results – Year 2040

By Year 2040 and without the proposed development, the study intersection of Meridian Road with E Woodmen Road experiences LOS D operations during the AM peak traffic hour and LOS F during the PM peak traffic hour. The LOS F operation is primarily attributed to the high eastbound, northbound and southbound left turning volumes. In order to provide mitigation to the poor overall operation and increase available intersection capacity, potential improvements may include the widening of E Woodmen Road to six-lanes, pursuant to its future classification as an expressway, as well as further optimization of traffic signal timings to accommodate future regional demand. Widening of Meridian Road as anticipated in the Briargate Parkway/Stapleton Road CPP may also provide additional mitigation to intersection operations. Additional analysis considering operational results upon roadway widening is provided in Section VII.

It is also noted that long-term operations may be better than shown given the potential for future planned roadway connections to the west along E Woodmen Road to influence vehicle routes. As example, planned construction of future Banning Lewis Parkway within the City of Colorado Springs along E Woodmen Road will provide an additional major north-south arterial roadway which may reduce some of the volumes projected to utilize Meridian Road for north-south travel. It is recommended that County Staff continues to monitor the study intersection in order to determine what mitigation may be most applicable and when implementation of said improvements becomes necessary.

The study intersection of Meridian Road with Eastonville Road experiences LOS D operations during the AM peak traffic hour and LOS C operations during the PM peak traffic hour.

The study intersection of Meridian Road with Bent Grass Meadows Drive experiences LOS B operations during both the AM and PM peak traffic hours.

The study intersection of Meridian Road with Owl Place experiences LOS C operations during the AM peak traffic hour and LOS B or better operations during the PM peak traffic hour.

The study intersection of bent Grass Meadows Drive with Meridian Park Drive experiences LOS B or better operations during both the AM and PM peak traffic hours.

The study intersection of Eastonville Road with Falcon Market Place experiences LOS A operations during both the AM and PM peak traffic hours.

The study intersection of Owl Place with Falcon Market Place experiences LOS A operations during both the AM and PM peak traffic hours.

Unresolved previous comment
- analyze only as
right-in/right-out and closed for
all horizons except existing.

Pursuant to conversation with County Staff, analysis updated to assume closure of Owl place by short-term background conditions in order to present the worst-case scenario.

IV. Proposed Project Traffic

Trip Generation

Standard traffic generation characteristics compiled by the Institute of Transportation Engineers (ITE) in their report entitled Trip Generation Manual, 11th Edition, were applied to the proposed land use in order to estimate average daily traffic (ADT), AM Peak Hour, and PM Peak Hour vehicle trips. A vehicle trip is defined as a one-way vehicle movement from a point of origin to a point of destination.

The ITE land use codes 934 (Fast-Food Restaurant with Drive-Through Window), 937 (Coffee/Donut Shop with Drive-Through Window), 945 (Convenience Store/Gas Station), and 948 (Automated Car Wash) were used for estimating trip generation because of their conservative rates and best fit to the anticipated land use descriptions.

As actual land uses, densities or site plans within the Owl Place Commercial development area become defined over time, it is expected that traffic generation characteristics considered within this study will need to be updated by more specific traffic analyses or studies to help assess if transportation improvements are needed to mitigate potential traffic impacts.

Trip generation rates used in this study are presented in Table 4.

Table 4 – Trip Generation Rates

ITE CODE	LAND USE	UNIT	TRIP GENERATION RATES						
			24 HOUR	AM PEAK HOUR			PM PEAK HOUR		
				ENTER	EXIT	TOTAL	ENTER	EXIT	TOTAL
934	Fast-Food Restaurant w/DTW	KSF	467.48	22.75	21.86	44.61	17.18	15.85	33.03
937	Coffee/Donut Shop w/DTW	KSF	533.57	43.80	42.08	85.88	19.50	19.50	38.99
945	Convenience Store/Gas Station	KSF	700.43	28.26	28.26	56.52	27.26	27.26	54.52
948	Automated Car Wash	CWT	775.00	*	*	*	38.75	38.75	77.50

Key: KSF = Thousand Square Feet Gross Floor Area. CWT = Car Wash Tunnels.

* = ITE does not report significant AM peak hour generation due to the nature of the business (ie, operating hours typically open after AM peak).

Note: All data and calculations above are subject to being rounded to nearest value.

Table 5 illustrates projected ADT, AM Peak Hour, and PM Peak Hour traffic volumes likely generated by the proposed development upon build-out.

Table 5 – Trip Generation Summary

ITE CODE	LAND USE	SIZE	TOTAL TRIPS GENERATED						
			24 HOUR	AM PEAK HOUR			PM PEAK HOUR		
				ENTER	EXIT	TOTAL	ENTER	EXIT	TOTAL
934	Fast-Food Restaurant w/DTW	3.4 KSF	1,599	78	75	153	59	54	113
937	Coffee/Donut Shop w/DTW	2.0 KSF	1,067	88	84	172	39	39	78
945	Convenience Store/Gas Station	5.3 KSF	3,712	150	150	300	144	144	289
948	Automated Car Wash	1 CWT	775	*	*	*	39	39	78
<i>Proposed Total:</i>			<i>7,153</i>	<i>315</i>	<i>309</i>	<i>624</i>	<i>281</i>	<i>276</i>	<i>557</i>

Key: KSF = Thousand Square Feet Gross Floor Area. CWT = Car Wash Tunnels.

* = ITE does not report significant AM peak hour generation due to the nature of the business (ie, operating hours typically open after AM peak).

Note: All data and calculations above are subject to being rounded to nearest value.

Upon build-out, Table 5 illustrates that the proposed development has the potential to generate approximately 7,153 daily vehicle trips with 624 of those occurring during the morning peak hour and 557 during the afternoon peak hour.

Adjustments to Trip Generation Rates

A development of this type is likely to attract pass-by trips from the adjacent roadway system. ITE defines a pass-by trip as an intermediate stop on the way from an origin to a primary trip destination without a route diversion. Due to this behavior, pass-by trips are not considered as “new” traffic generated by the development since the trips are already present on the roadway network enroute to their primary destination.

Pass-by trips are especially common to fast-food restaurant, coffee/donut shop, and gas station land uses given the convenience provided by these businesses on the way to another primary destination such as a place of work or home. As example, published ITE pass-by and diverted link trip data indicates an average trip generation reduction rate of 49 percent during the AM peak traffic hour and 50 percent during the PM peak traffic hour as typical to fast-food restaurants with drive-through window.

It is also considered likely that a mixed-use development of this type will attract trips from within area land uses as well as from the adjacent Falcon Marketplace development. However, due to the conceptual nature of proposed land uses, specific internal capture rates can only be assumed. Therefore, no trip reduction was taken in this analysis. This assumption provides for a conservative analysis.

Upon consideration of the proposed land use, reductions were applied pursuant to ITE average data to the proposed land use in order to account for the high probability of pass-by trip generation. ITE average pass-by trip percentages used are presented in Table 6.

Table 6 illustrates projected ADT, AM Peak Hour, and PM Peak Hour traffic volumes likely generated by the proposed development upon build-out with reductions applied due to pass-by trips. Average daily (24-Hour) pass-by trip percentages were estimated as the average between the AM and PM peak hour rates indicated by ITE.

Table 6 – Trip Generation Summary with Pass-By Trip Reductions

ITE CODE	LAND USE	SIZE	TOTAL NEW TRIPS GENERATED						
			24 HOUR	AM PEAK HOUR			PM PEAK HOUR		
				ENTER	EXIT	TOTAL	ENTER	EXIT	TOTAL
<i>Pass-By Trip Reduction:</i>			50%	49%	49%	49%	50%	50%	50%
934	Fast-Food Restaurant w/DTW	3.4 KSF	807	40	38	78	29	27	56
<i>Pass-By Trip Reduction:</i>			60%	60%	60%	60%	60%	60%	60%
937	Coffee/Donut Shop w/DTW	2.0 KSF	427	35	34	69	16	16	31
<i>Pass-By Trip Reduction:</i>			59%	62%	62%	62%	56%	56%	56%
945	Convenience Store/Gas Station	5.3 KSF	1,522	57	57	114	64	64	127
<i>Pass-By Trip Reduction:</i>			0%	0%	0%	0%	0%	0%	0%
948	Automated Car Wash	1.0 CWT	775	*	*	*	39	39	78
<i>Proposed Total:</i>			3,531	132	129	260	147	145	292

Key: KSF = Thousand Square Feet Gross Floor Area. CWT = Car Wash Tunnels.

* = ITE does not report significant AM peak hour generation due to the nature of the business (ie, operating hours typically open after AM peak).

Note: All data and calculations above are subject to being rounded to nearest value.

Upon build-out and with consideration for pass-by trip reductions, Table 6 illustrates that the proposed development has the potential to generate approximately 3,531 new daily trips with 260 of those occurring during the morning peak hour and 292 during the afternoon peak hour.

Trip Distribution

The overall directional distribution of site-generated traffic was determined based on the location of development site within the County, proposed and existing area land uses, allowed turning movements, available roadway network, assumptions made for previous studies within the area, and in reference to distribution patterns of existing traffic count data.

Additional pass-by trip distribution is assumed to include vehicle routes heading north-south along Meridian Road. Distribution percentages utilized for pass-by trips are anticipated to be 50 percent from the north and south.

Overall trip distribution patterns for the development are shown on Figure 6.

Trip Assignment

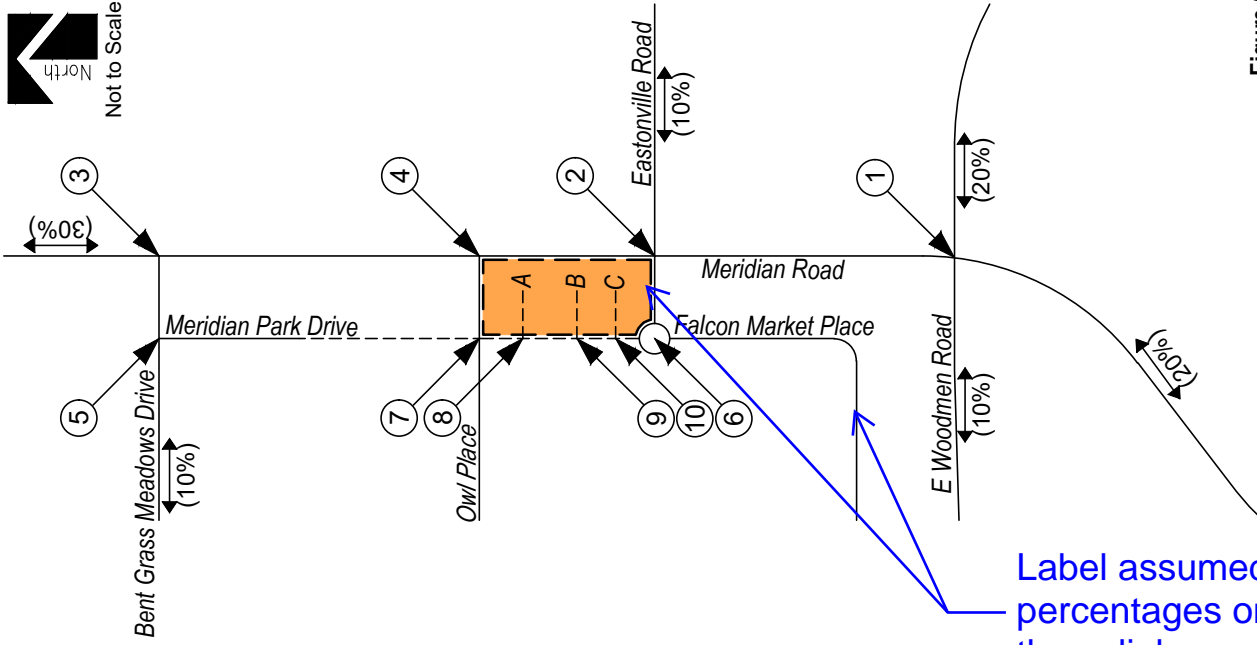
Trip assignment is how generated and distributed vehicle trips are expected to be loaded onto the available roadway network.

Applying trip distribution patterns to site-generated traffic provides the overall site-generated trip assignments shown on Figure 6.

It is to be noted that the overall site-generated trip assignments shown on Figure 6 represent the combination of both primary trip generation and pass-by trips. Due to the application of pass-by trips, some negative site-generated trips are shown at the study intersections. These negative trips are the result of redistributing existing through volumes along Meridian Road to site-generated ingress volumes.

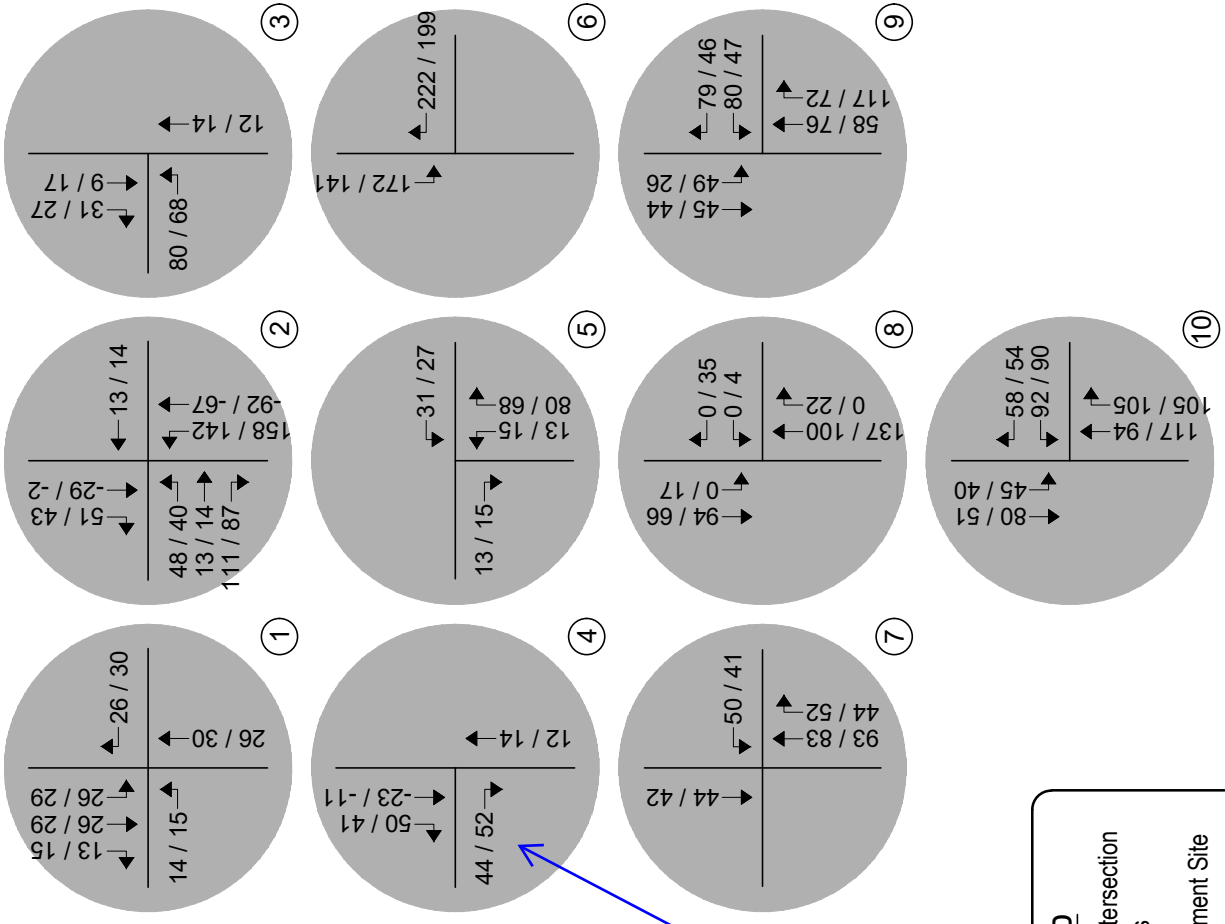


Not to Scale



Label assumed percentages on these links

Percentages added as applicable.



Pursuant to conversation with County Staff, analysis updated to assume closure of Owl place by short-term background conditions in order to present the worst-case scenario.

Provide analysis with this intersection closed also (or only). It will only be allowed to be interim RI/RO if there is adequate justification. (Previous comment)

LEGEND

- Study Intersection
- Development Site

OWL PLACE COMMERCIAL
Traffic Impact Study

Figure 6
SITE DEVELOPMENT DISTRIBUTION
(%) : Overall
SITE-GENERATED
AM / PM Peak Hour



SM ROCHA, LLC
Traffic and Transportation Consultants

V. Future Traffic Conditions With Proposed Developments

Total traffic is the traffic projected to be on area roadways with consideration of the proposed development. Total traffic includes background traffic projections for Years 2024 and 2040 with consideration of site-generated traffic. For analysis purposes, it was assumed that development construction would be completed by end of Year 2024.

Pursuant to area roadway improvement discussions provided in Section III, Year 2024 and Year 2040 total traffic conditions assume no additional roadway improvements to accommodate regional transportation demands. Roadway improvements associated with site development are expected to be limited to site access and frontage as required by the governing agency. This is anticipated to include the extension of Falcon market Place north to Owl Place and associated auxiliary lanes as needed for site accesses. Additional detail regarding anticipated improvements associated with site development are summarized in Section VIII.

Projected Year 2024 total traffic volumes and intersection geometry are shown in Figures 7A and 7B, respectively.

Figures 8A and 8B show projected total traffic volumes and intersection geometry for Year 2040.



Not to Scale

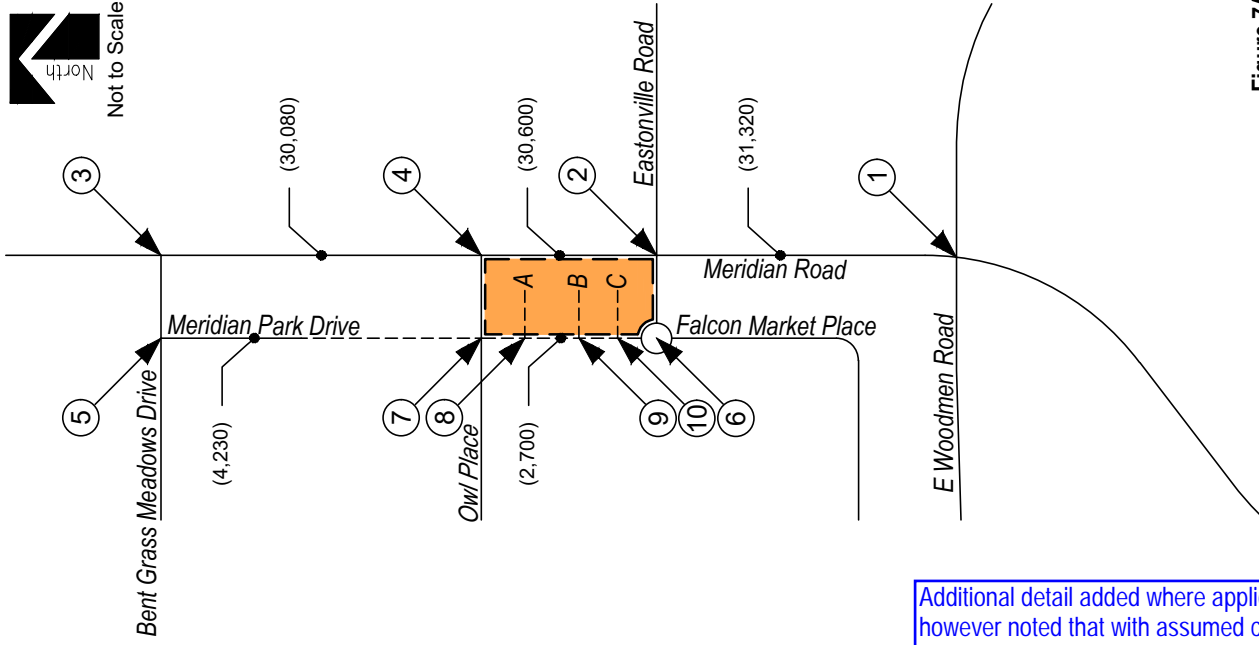


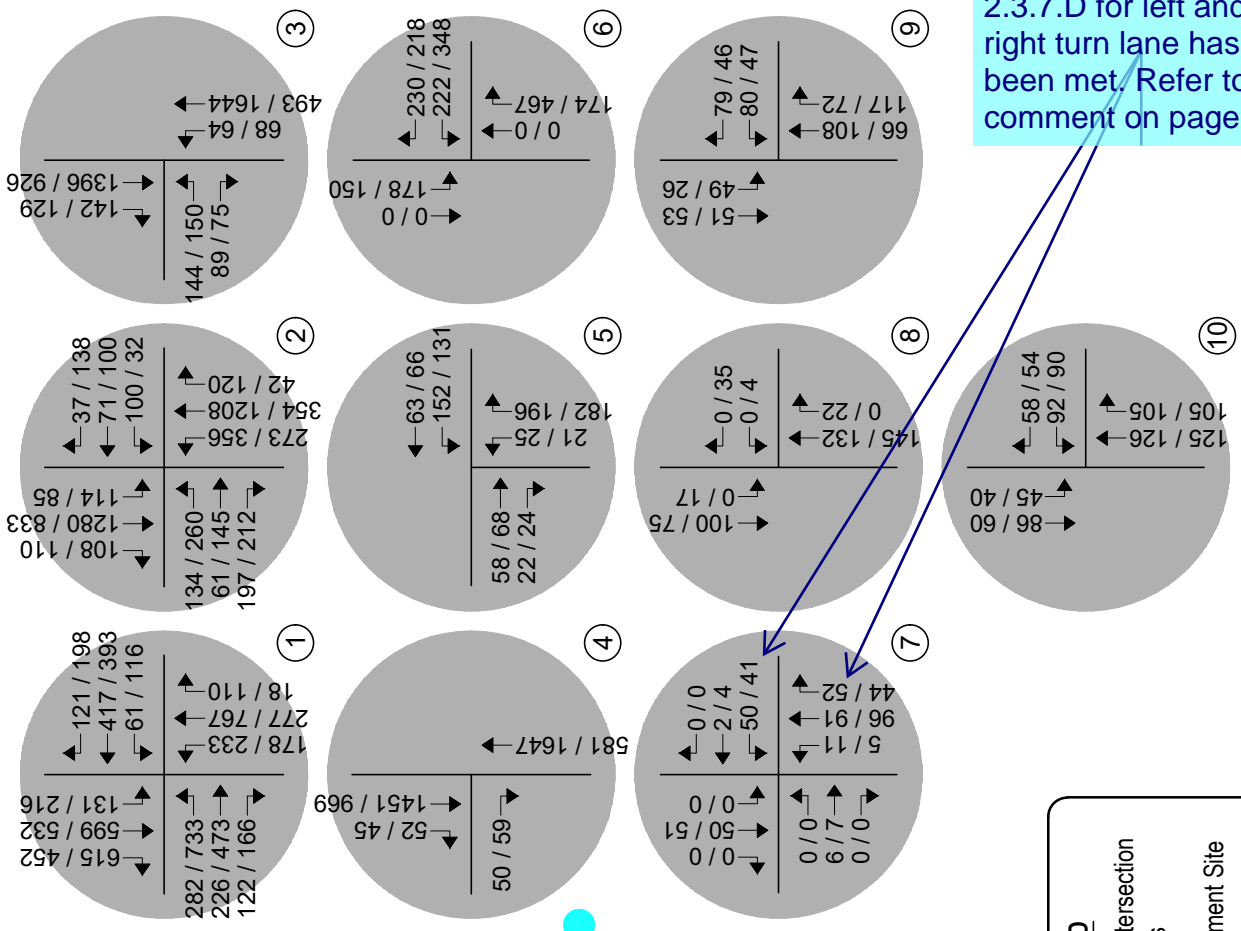
Figure 7A
TOTAL TRAFFIC - YEAR 2024
 Volumes

AM / PM Peak Hour
 (ADT) : Average Daily Traffic

January 2023
 Page 26

Additional detail added where applicable. It is however noted that with assumed closure of Owl Pl / Meridian Rd access intersection, auxiliary lanes at the locations indicated may no longer apply.

Threshold per ECM 2.3.7.D for left and right turn lane has been met. Refer to comment on page 35



LEGEND

- Study Intersection
- Development Site

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 Traffic Impact Study



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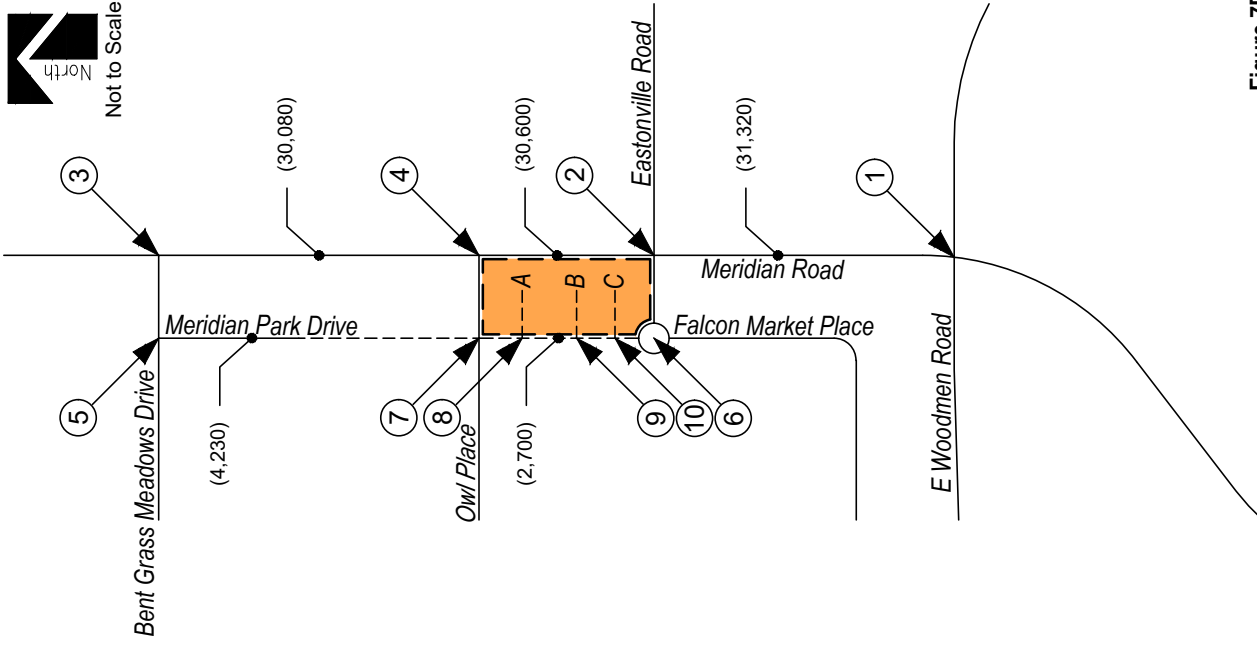
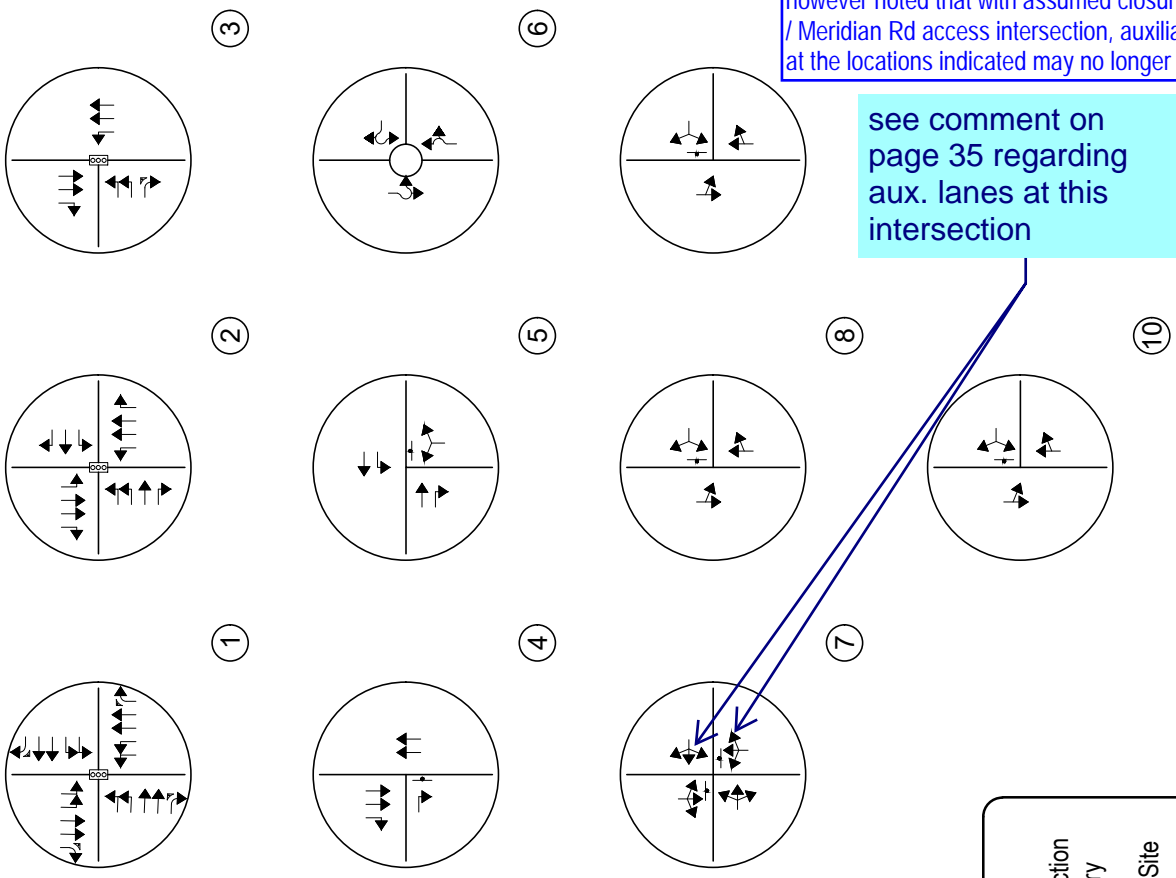





Figure 7B
TOTAL TRAFFIC - YEAR 2024
 Intersection Geometry
 AM / PM Peak Hour
 (ADT) : Average Daily Traffic



Additional detail added where applicable. It is however noted that with assumed closure of Owl Pl / Meridian Rd access intersection, auxiliary lanes at the locations indicated may no longer apply.

see comment on page 35 regarding aux. lanes at this intersection

LEGEND

-  Study Intersection
-  Lane Geometry
-  Development Site

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Traffic Impact Study



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Not to Scale

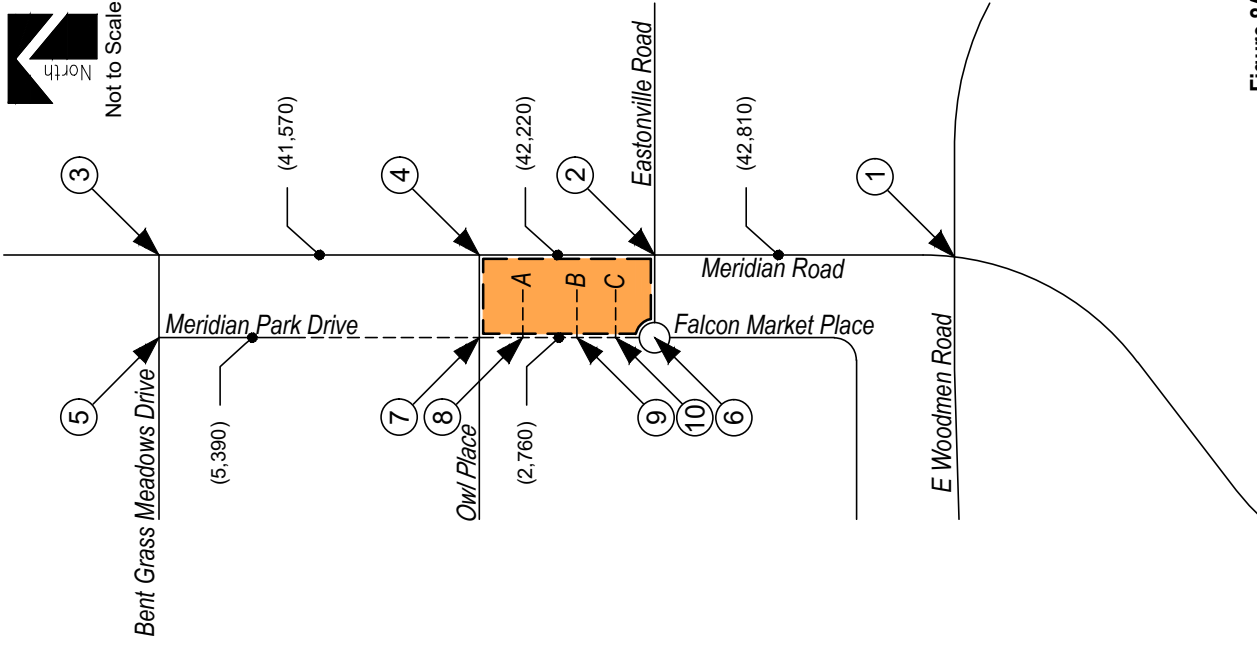
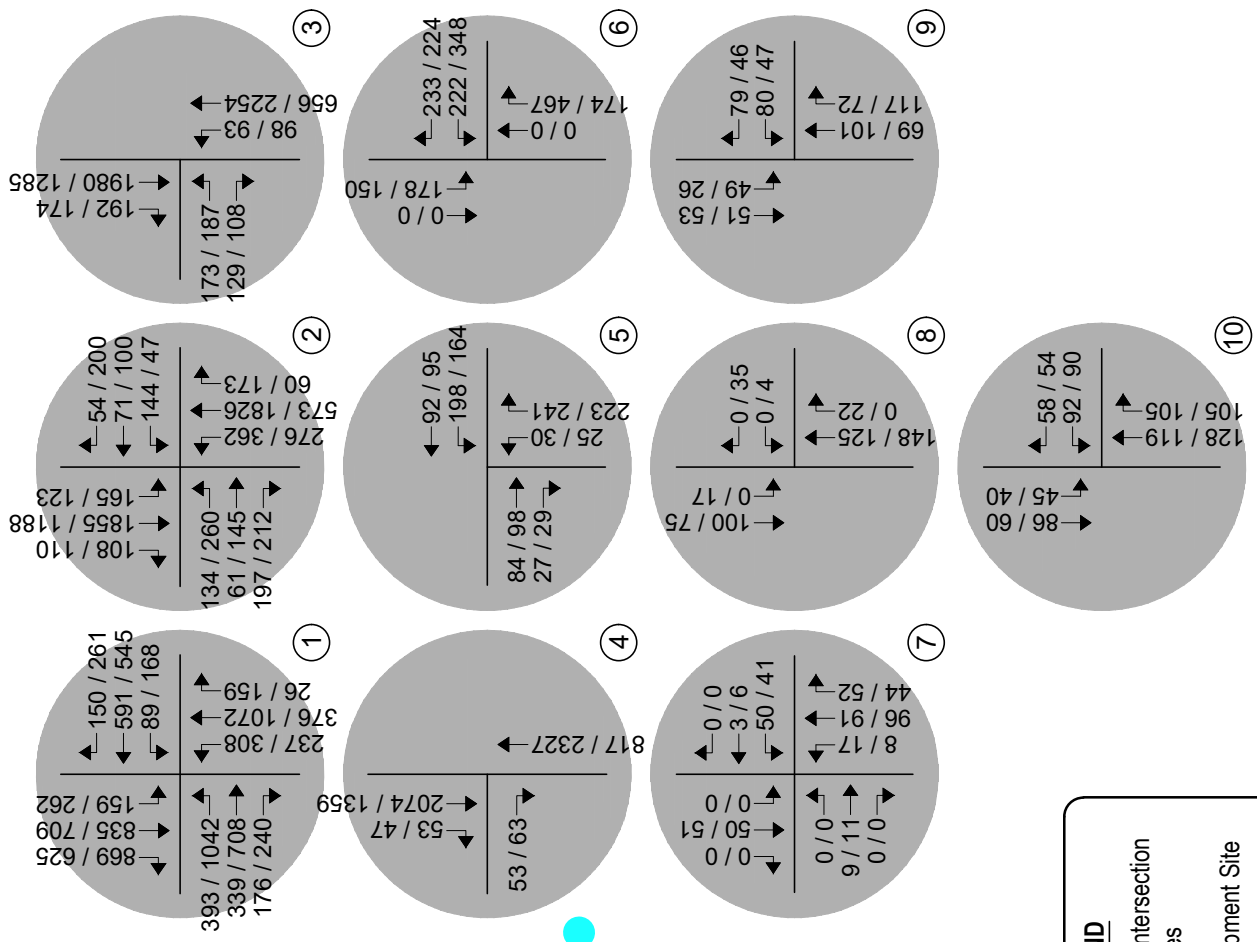


Figure 8A
TOTAL TRAFFIC - YEAR 2040
 Volumes
 AM / PM Peak Hour
 (ADT) : Average Daily Traffic



LEGEND

- Study Intersection
- Volumes
- Development Site

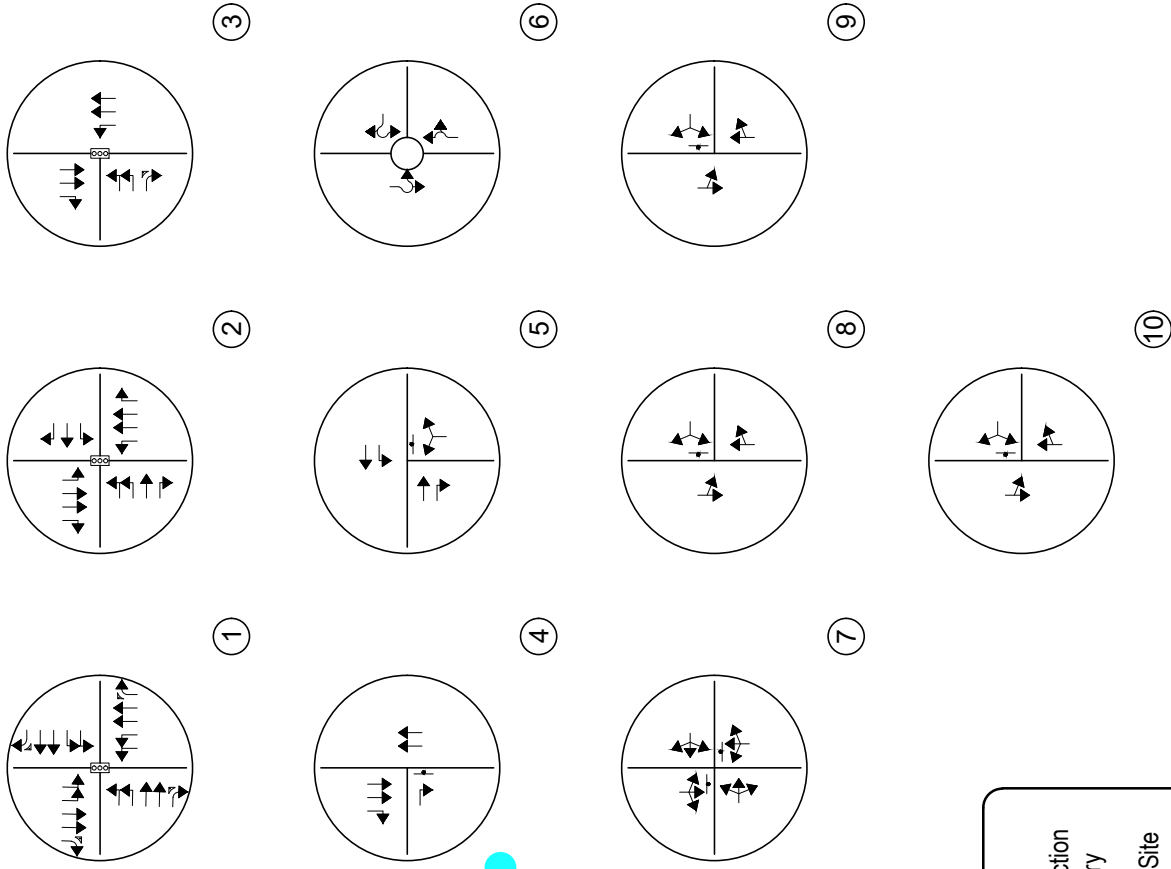
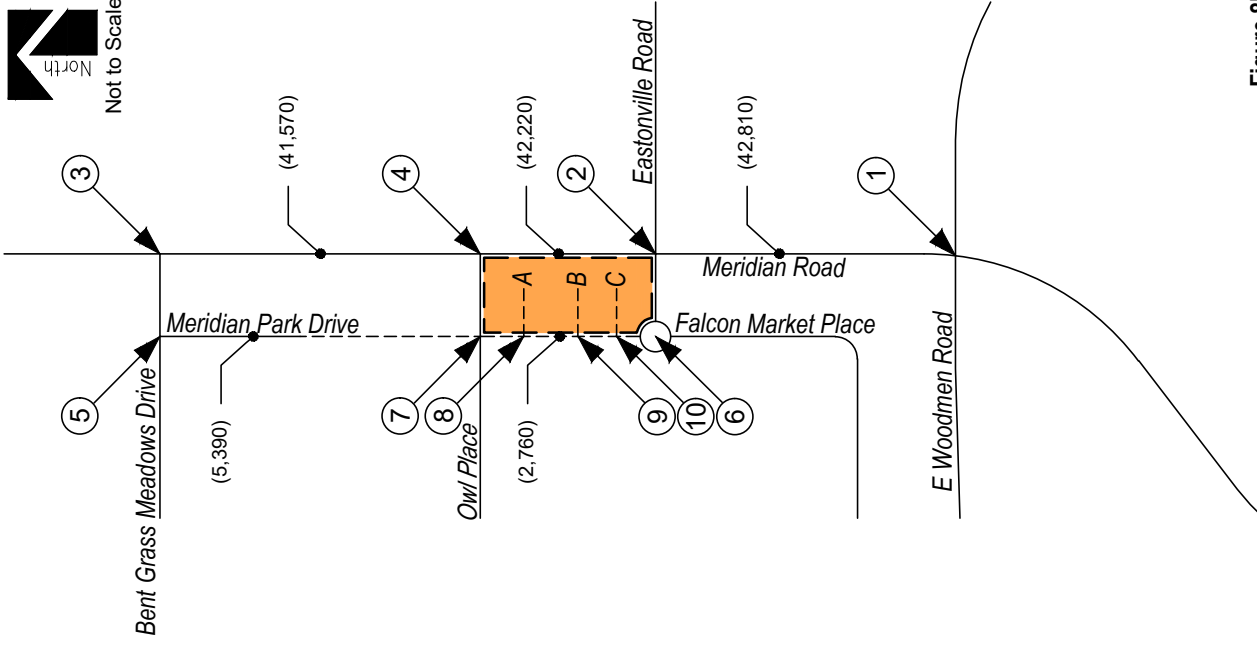
OWL PLACE COMMERCIAL
 Traffic Impact Study



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Not to Scale



LEGEND



-  Study Intersection Lane Geometry
-  Development Site

Figure 8B
TOTAL TRAFFIC - YEAR 2040
 Intersection Geometry
 AM / PM Peak Hour
 (ADT) : Average Daily Traffic

VI. Project Impacts

The analyses and procedures described in this study were performed in accordance with the latest HCM and are based upon the worst-case conditions that occur during a typical weekday upon build-out of site development and analyzed land uses. Therefore, study intersections are likely to operate with traffic conditions better than those described within this study, which represent the peak hours of weekday operations only.

Peak Hour Intersection Levels of Service – Total Traffic

As with background traffic, the operations of the study intersections were analyzed under projected total traffic conditions using the SYNCHRO computer program. Total traffic level of service analysis results for Years 2024 and 2040 are summarized in Table 7 and Table 8, respectively.

Definitions of levels of service are given in Appendix B. Intersection capacity worksheets are provided in Appendix C.

Table 7 – Intersection Capacity Analysis Summary – Total Traffic – Year 2024

INTERSECTION LANE GROUPS	LEVEL OF SERVICE	
	AM PEAK HOUR	PM PEAK HOUR
Meridian Road / E Woodmen Road (Signalized)	C (32.5)	D (44.2)
Meridian Road / Eastonville Road (Signalized)	D (47.4)	E (68.9)
Meridian Road / Bent Grass Meadows Drive (Signalized)	B (12.8)	A (7.5)
Meridian Road / Owl Place (Stop-Controlled) Eastbound Right	B	B
Bent Grass Meadows Drive / Meridian Park Drive (Stop-Controlled) Westbound Left	A	A
Northbound Left and Right	B	B
Eastonville Road / Falcon Market Place (Roundabout) Eastbound Left and Right	A	A
Northbound Through and Right	A	A
Southbound Left and Through	A	A
Owl Place / Falcon Market Place (Stop-Controlled) Eastbound Left, Through and Right	A	A
Westbound Left, Through and Right	A	A
Northbound Left, Through and Right	B	B
Southbound Left, Through and Right	B	B
Access A / Falcon Market Place (Stop-Controlled) Westbound Left and Right	A	A
Southbound Left and Through	A	A
Access B / Falcon Market Place (Stop-Controlled) Westbound Left and Right	B	B
Southbound Left and Through	A	A
Access C / Falcon Market Place (Stop-Controlled) Westbound Left and Right	B	B
Southbound Left and Through	A	A

Key: Signalized Intersection: Level of Service (Control Delay in sec/v eh)
 Stop-Controlled Intersection: Level of Service
 Roundabout Intersection: Level of Service

Table 8 – Intersection Capacity Analysis Summary – Total Traffic – Year 2040

INTERSECTION LANE GROUPS	LEVEL OF SERVICE	
	AM PEAK HOUR	PM PEAK HOUR
Meridian Road / E Woodmen Road (Signalized)	D (39.2)	F (92.6)
Meridian Road / Eastonville Road (Signalized)	E (73.1)	D (36.4)
Meridian Road / Bent Grass Meadows Drive (Signalized)	C (21.5)	B (13.2)
Meridian Road / Owl Place (Stop-Controlled) Eastbound Right	D	B
Bent Grass Meadows Drive / Meridian Park Drive (Stop-Controlled) Westbound Left	A	A
Northbound Left and Right	B	B
Eastonville Road / Falcon Market Place (Roundabout) Eastbound Left and Right	A	A
Northbound Through and Right	A	A
Southbound Left and Through	A	A
Owl Place / Falcon Market Place (Stop-Controlled) Eastbound Left, Through and Right	A	A
Westbound Left, Through and Right	A	A
Northbound Left, Through and Right	B	B
Southbound Left, Through and Right	B	B
Access A / Falcon Market Place (Stop-Controlled) Westbound Left and Right	A	A
Southbound Left and Through	A	A
Access B / Falcon Market Place (Stop-Controlled) Westbound Left and Right	B	B
Southbound Left and Through	A	A
Access C / Falcon Market Place (Stop-Controlled) Westbound Left and Right	B	B
Southbound Left and Through	A	A

Key: Signalized Intersection: Level of Service (Control Delay in sec/v eh)
 Stop-Controlled Intersection: Level of Service
 Roundabout Intersection: Level of Service

Total Traffic Analysis Results Upon Development Build-Out

Table 8 illustrates how, by Year 2040 and upon development build-out, the signalized intersection of Meridian Road with E Woodmen Road shows an overall LOS D operation during both the morning peak traffic hour and LOS F during the afternoon peak traffic hour. Compared to the background traffic analysis, the traffic generated by the proposed development is not expected to significantly change the operations of the study intersection and is noted to increase overall intersection delay by approximately six seconds which is considered minor. The LOS F operation anticipated during the afternoon peak traffic period continues to be primarily attributed to the eastbound, northbound and southbound turning movements. As with background traffic conditions, in order to provide mitigation to the poor overall operation and increase available intersection capacity, potential improvements may include the widening of E Woodmen Road to six-lanes, pursuant to its future classification as an expressway, as well as further optimization of traffic signal timings to accommodate future regional demand.

It is noted that long-term operations may be better than shown given the potential for future planned roadway connections to the west along E Woodmen Road to influence vehicle routes. As example, planned construction of future Banning Lewis Parkway within the City of Colorado Springs along E Woodmen Road will provide an additional major north-south arterial roadway which may reduce some of the volumes projected to utilize Meridian Road for north-south travel. It is recommended that County Staff continues to monitor the study intersection in order to determine what mitigation may be most applicable and when implementation of said improvements becomes necessary.

The signalized intersection of Meridian Road with Eastonville Road is projected to have morning peak traffic hour operations at LOS E and LOS D during the afternoon peak traffic hour. The LOS E operation anticipated during the morning peak traffic period continues to be attributed to the high southbound through volumes. To mitigate the anticipated LOS E operation, it is recommended increasing northbound and southbound signal split timing by taking away from eastbound and westbound signal split timing. However, this may result in increased vehicle queues along Eastonville Road. Alternatively, restriping of the existing northbound left-turn lane to accommodate dual northbound lefts allowing additional signal split timing to be provided to other movements would provide improved operations. As site plan development continues to occur, it is anticipated that additional analysis may be needed in order to determine when such improvements are necessary.

The signalized intersection of Meridian Road with Bent Grass Meadows Drive is projected to have morning and afternoon peak traffic hour operations at LOS C and B, respectively.

The stop-controlled intersection of Meridian Road with Owl Place is projected to have turning movement operations at LOS D or better for the morning peak traffic hour and LOS B for the afternoon peak traffic hour.

The stop-controlled intersection of bent Grass Meadows Drive with Meridian Park Drive is projected to have turning movement operations at LOS B or better for both the morning and afternoon peak traffic hours.

Address both analyses for closure and RI/RO

Verify LOS based on Owl Lane closure

Pursuant to conversation with County Staff, analysis updated to assume closure of Owl place by short-term background conditions in order to present the worst-case scenario.

The roundabout intersection of Eatonville Road with Falcon Market Place is projected to have turning movement operations at LOS A for both the morning and afternoon peak traffic hours.

The stop-controlled intersection of Owl Place with Falcon Market Place is projected to have turning movement operations at LOS B or better for both the morning and afternoon peak traffic hours.

The stop-controlled intersections of site Accesses A, B and C with Falcon Market Place are projected to have turning movement operations at LOS B or better for both the morning and afternoon peak traffic hours.

VII. Additional Analysis

Additional analysis was conducted to assess auxiliary lane requirements, vehicle queuing, pedestrian connectivity, alternate modes of transportation, and alternative analysis scenarios at the Owl Place intersection with Meridian Road and the widening of Meridian Road under various scenarios.

If RIRO is still proposed for the interim condition, address required Auxiliary lanes at Owl Place and Falcon Market Place Drive intersection as well as the improvement of Owl place from gravel to paved County cross section.

Auxiliary Lane Analysis

If still analyzing both options at Owl Place and Meridian Rd (RIRO & Closure) address the southbound acceleration lane.

Auxiliary lanes for site development intersections are to

Additional detail added where applicable. It is however noted that with assumed closure of Owl Pl / Meridian Rd access intersection, auxiliary lanes at the locations indicated may no longer apply.

Considering development build-out, an evaluation of auxiliary lanes at 2.3.7(D), of the County’s ECM, reveals that exclusive left-turn and right-turn deceleration lanes are required at all study intersections along Meridian Road due to its roadway classification and corresponding CDOT State Highway Access Code (SHAC) designation. It is anticipated that auxiliary lanes at internal site accesses will include left-turn deceleration lanes along Falcon Market Place at site accesses due to the high left-turn ingress volumes. This may be accomplished through the use of a center two-way-left-turn-lane (TWLTL) and is consistent with the existing Falcon market Place cross section south of Eastonville Road. As actual site plans and land uses become defined, it is anticipated that updated analyses will be performed in order to determine when the thresholds are met to require implementation of specific auxiliary lanes.

Pursuant to the posted speed limit along study area roadways and corresponding design speeds as identified in the County’s ECM, turn lane lengths along Meridian Road are expected to consist of a total length of 530 feet include a transition taper of 240 feet. Turn lanes along Falcon market Place are expected to provide a total length of 235 feet including a transition taper of 120 feet. In locations where due to intersection spacing may inhibit provision of the recommended lengths, it is anticipated that a design waiver would be required and is to be coordinated with County Staff. Additionally, as site design is further developed, it is anticipated that applicable ROW dedication will be needed to accommodate auxiliary lanes along Meridian Road upon future planned widening to six through lanes.

Queue Length Analysis

revise to deviation requests

Wording updated.

Queue lengths for study intersections were analyzed using Year 2040 total traffic conditions. The analysis yields estimate of 95th percentile queue lengths, which have only a five percent probability of being exceeded during the analysis time period. Queue lengths were modeled and are included with the Synchro worksheets in Appendix C.

Table 9 summarizes the 95th percentile queue results in comparison to the projected storage requirements for turn movements within study area for Year 2040.

Table 9 – Turn Lane Queues and Storage Requirements – Total Traffic – Year 2040

Intersection	Turn Movement	Existing Turn Lane Length (feet)	AM Peak Hour	PM Peak Hour	Recommended Turn Lane Length (feet)	
			95th Percentile Queue Length (feet)	95th Percentile Queue Length (feet)		
Signalized Intersections						
Meridian Road / E Woodmen Road	EB	L	720' x2	248'	710'	720' x2
		T	-	162'	352'	-
		R	635'	0'	0'	635'
	WB	L	440' x2	67'	109'	440' x2
		T	-	351'	406'	-
		R	210'	0'	113'	210'
	NB	L	420' x2	160'	225'	420' x2
		T	-	175'	686'	-
		R	330'	0'	0'	330'
	SB	L	460' x2	76'	243'	460' x2
		T	-	364'	415'	-
		R	575'	0'	0'	575'
Meridian Road / Eastonville Road	EB	L	100' x2	81'	188'	100' x2
		T	-	99'	272'	-
		R	100'	147'	57'	100'
	WB	L	100'	227'	71'	100'
		T	-	110'	175'	-
		R	100'	0'	45'	100'
	NB	L	100'	477'	206'	100'
		T	-	22'	106'	-
		R	400'	0'	1'	400'
	SB	L	375'	75'	172'	375'
		T	-	953'	628'	-
		R	400'	7'	31'	400'
Meridian Road / Bent Grass Meadows Drive	EB	L	160' X2	123'	134'	160' X2
		R	-	106'	58'	-
	NB	L	700'	104'	3'	700'
		T	-	19'	949'	-
	SB	T	-	827'	345'	-
		R	330'	24'	23'	330'
Stop-Controlled Intersections						
Meridian Road / Owl Place	EB	R	-	25'	10'	-
		T	-	0'	0'	-
	SB	T	-	0'	0'	-
		R	50'	0'	0'	50'
Bent Grass Meadows Drive / Meridian Park Drive	EB	T	-	0'	0'	-
		R	-	0'	0'	-
	WB	L	-	13'	10'	-
		T	-	0'	0'	-
NB	L,R	-	35'	40'	-	
Falcon Market Place / Owl Place	WB	L,T,R	-	0'	0'	-
		L,T,R	-	3'	3'	-
	NB	L,T,R	-	18'	20'	-
		L,T,R	-	5'	5'	-
Meridian Park Drive / Access A	WB	L,R	-	0'	5'	-
		T,R	-	0'	0'	-
	SB	L,T	-	0'	0'	-
Meridian Park Drive / Access B	WB	L,R	-	23'	10'	-
		T,R	-	0'	0'	-
	SB	L,T	-	3'	3'	-
Meridian Park Drive / Access C	WB	L,R	-	25'	20'	-
		T,R	-	0'	0'	-
	SB	L,T	-	3'	3'	-
Roundabout Intersections						
Meridian Park Drive / Eastonville Road / Falcon Market Place	WB	L,R	-	50'	50'	-
		T,R	-	25'	50'	-
	SB	L,T	-	25'	25'	-

Note: Turn Lane Length does not include taper length.
Key: x2 = Dual Turn Lanes.

(not checked in detail this review)

Analysis updated with assumed closure of Owl Place. See previous responses.

Also address with Owl Place closed at Meridian Road

Eastonville and
Meridian Rd
intersection indicates
the eastbound queue
length of 272'. Revise

As Table 9 shows, all turn lane lengths at study intersections are anticipated to provide sufficient storage to accommodate future traffic volumes. However, at the Eastonville Road and Owl Place intersection, some vehicle queuing was indicated for the eastbound movements. The greatest on-site queue length anticipated occurs during the afternoon peak hour at the Eastonville Road intersection. The queue length is approximately 272 feet or between ten and eleven vehicles for the eastbound approach, assuming a typical vehicle length of 25 feet.

It is however noted that comparable queuing is anticipated to occur under Year 2040 background conditions without the proposed development. With the addition of site generated traffic, queue lengths are shown to increase by approximately one to two vehicles. This queue length can generally be accommodated within the available roadway length, however some blocking of the northbound movement at the adjacent roundabout intersection may occur during peak periods. However, this is not expected to interfere with vehicles entering the development area from Meridian Road. Additionally, the upstream signal control on Meridian Road will tend to create additional gaps in the traffic stream for turning movements at the Falcon Market Place roundabout and will most likely provide mitigation to vehicle queues projected during the afternoon peak traffic hour. Additionally, it is anticipated that as wait times for specific movements increase, there is potential for self-regulation as drivers will become more likely to choose an alternative route rather than join a long queue.

It is noted that provision for dual northbound left turn lanes on Meridian Road as previously discussed would also allow additional signal timing for the eastbound movement reducing vehicle queues and improving overall intersection operations. To prevent vehicle stacking within the intersection, additional mitigation measures may include conversion of the existing roundabout to a two-way stop-controlled intersection.

Pedestrian Circulation & Safety Analysis

In accordance with Section B.2.4.B of the County's ECM, an assessment to pedestrian connectivity and safety was considered. However, it is emphasized that the sketch plan analyzed throughout this study is conceptual and details of pedestrian circulation and connectivity have not been determined. As actual site plans within the overall development become defined over time, it is assumed that an evaluation of pedestrian circulation and connectivity may be necessary. However, it should be noted that site plans are expected to accommodate pedestrian and bicycle connectivity pursuant to the MTCP including planned bicycle routes along Meridian Road.

With the assumption that future site plans are designed per the County's ECM, and pursuant to the Federal Highway Administration's (FHWA) Guide for Improving Pedestrian Safety at Uncontrolled Crossing Locations⁸, pedestrian safety is not expected to be of concern. Moreover, traffic calming, and pedestrian crossing treatments, are not applicable, and traffic calming is not recommended for the proposed conditions.

⁸ Guide for Improving Pedestrian Safety at Uncontrolled Crossing Locations, Federal Highway Administration, July 2018.

Transportation Demand Management Plan

Pursuant to Section B.2.4.B of the County's ECM, a Transportation Demand Management (TDM) Plan for the proposed development was prepared in order to identify features, measures, and strategies designed to reduce single-occupant vehicle (SOV) trips and maximize the use of alternate modes of transportation. As it relates to this development site and the overall area, these alternate modes of transportation include, but may not be limited to, public bus routes, shuttles, car-pooling, bicycling, scooters, and walking. This is consistent with transportation facilities and services described within the County's MTCP and the Pikes Peak Area Council of Governments (PPACG) 2045 Regional Transportation Plan – Transit⁹.

One method includes the availability of public bus routes. The City of Colorado Springs provides the Mountain Metropolitan Transit (MMT). While MMT currently does not provide service in unincorporated areas of El Paso County. Additional transit services for unincorporated areas of El Paso County, as described within the MTCP, include Community Intersections, ComCor, Amblicab, El Paso Fountain Valley Senior Citizens Program, Goodwill Industries, Metro Mobility, Mountain Community Senior Services, Rocky Mountain Health Care Services, and Silver Key Senior Services. These public modes of transportation are expected to be affordable and easy to access.

Residents, tenants, visitors, or employees of the overall development area may also be encouraged to travel by bicycle or by walking. Within the immediate area, public sidewalks and pedestrian trails will be available to allow for connectivity within the greater area. Urban and regional trails exist within the overall area, as shown in the MTCP, and are planned to be improved in the future. Other forms of transportation may also be available that encourage the use of these pedestrian routes, including electric scooters and electric bicycles.

As site plans within the Owl Place Commercial area develop, they may consider promoting alternate modes of pedestrian travel and accommodations as needed. In reference to the City and County of Denver's TDM Guide, general strategies and tools for implementing a successful TDM Plan may include subsidized transit passes, investments in future transit stops, transit connection services, and passenger pick-up / drop-off areas used in conjunction with transit connection services. Bicycle and pedestrian strategies may include shared bicycle amenities, bike, e-bike, or scooter share/loan programs, subsidized shared mobility programs, or pedestrian wayfinding. Parking and car-share strategies may include parking fees, parking cash-out programs, or incentivized carpooling programs. Supportive strategies may include membership in a Transportation Management Association (TMA), transportation incentive fundings, transit screens and information kiosks, new resident kits, or teleworking policies. Event-related TDM strategies may include one-time transit passes, valet bicycle parking, or special event transit services.

⁹ 2045 Regional Transportation Plan – Transit, Mountain Metropolitan Transit, January 8, 2020.

Access Closure Analysis – Owl Place & Meridian Road

Pursuant to anticipated widening of Meridian Road to six through lanes, it is anticipated that further restriction and closure of the Owl Place access intersection may be necessary. Based on site-generated traffic distribution detailed in Figure 6, as well as projected long-term traffic volumes, the closure of owl Place will result in a general increase in volumes at the intersections of Meridian Road with Eastonville Road and Bent Grass Meadows Drive. Given the poor LOS results indicated under Year 2040 total traffic conditions, it is not recommended that access onto Meridian Road from Owl Place be closed. Removal of the access will interfere with the existing and proposed developments' ability to equally distribute traffic within the site and out to available roadways, thus impacting existing and future traffic in the surrounding area and potentially cause the adjacent roadway network to be used in a manner not intended or cause additional delay that could impact emergency response times. It is recommended that provision be made to allowed for continued use of the access as a right-in/right-out only access until such time that updated analysis indicates otherwise.

Provide figures and tables (see other comments regarding the effects on other intersections)

Additional Operational Analysis – Meridian Road Widening

As noted in Section I, it is anticipated that Meridian Road will be widened to six through lanes by Year 2060. For analysis purposes, and to assist with planning for this in the future, a worst-case analysis was made regarding the impact of this widening upon Year 2040 traffic conditions.

Based on the assessment made, implementation of six through lanes on Meridian Road is necessary to improve operations for study intersections to LOS D results or better. Intersection capacity worksheets are included in Appendix D.

Per previous responses, analysis updated to assumed closure of Owl Place by shot-term background conditions in order to present a worst-case analysis. Additional Analysis section updated to instead provide a general discussion on impacts associated with a RI/RO if maintained, however figures and tables for said analysis no longer considered applicable.

VIII. Conclusion

and Meridian Park Drive/Falcon
Market Place between Eastonville
and Bent Grass Meadows Dr.

Description updated.

This traffic impact study is provided as a planning document and addresses the capacity, geometric, and control requirements associated with the development entitled Owl Place Commercial. This proposed commercial development consists of various potential uses including a gas station convenience store, coffee/donut shop with drive-through window, automated car wash, and quick-serve restaurants. The development is located at the southwest corner of the intersection of Meridian Road with Owl Place in El Paso County, Colorado.

The study area to be examined in this analysis encompasses Meridian Road between the intersections of Bent Grass Meadows Drive and E Woodmen Road.

Analysis was conducted for critical AM Peak Hour and PM Peak Hour traffic operations for existing traffic conditions, Year 2024 and Year 2040 background traffic conditions, and Year 2024 and Year 2040 total traffic conditions.

Under existing conditions, operational analysis shows that the signalized intersection of Meridian Road with E Woodmen Road has overall operations at LOS C during the morning peak traffic hour and LOS D during the afternoon peak traffic hour. The signalized intersection of Meridian Road with Bent Grass Meadows Drive has overall operations at LOS A during both the morning and afternoon peak traffic hours. The unsignalized intersections within the study area are shown to operate at LOS B or better during both the morning and afternoon peak traffic hours. Exceptions would include the westbound left turning movement at the intersection of Eastonville Road with Meridian Road which operates at LOS F during the PM peak traffic hour. The LOS F operation is attributed to the high through traffic volumes along Meridian Road and the stop-controlled nature of the intersection. However, as previously discussed, given the recent signalization of the study intersection, actual operations are expected to be better than shown.

Year 2024 background traffic analysis indicates that the signalized intersections along Meridian Road have overall operations at LOS D or better during both the AM and PM peak traffic hours. Unsignalized study intersections operate at or better than LOS B during both AM and PM peak traffic periods.

By Year 2040 and without the proposed development, the study intersection of Meridian Road with E Woodmen Road experiences LOS D operations during the AM peak traffic hour and LOS F during the PM peak traffic hour. The LOS F operation is primarily attributed to the high eastbound, northbound and southbound left turning volumes. The study intersection of Meridian Road with Eastonville Road experiences LOS D operations during the AM peak traffic hour and LOS C operations during the PM peak traffic hour. The study intersection of Meridian Road with Bent Grass Meadows Drive experiences LOS B operations during both the AM and PM peak traffic hours. Unsignalized study intersections are projected to operate at LOS C or better during the AM peak traffic hour and LOS B or better during the PM peak traffic hour.

In order to provide mitigation to the poor overall operation and increase available intersection capacity, potential improvements may include the widening of E Woodmen Road to six-lanes, pursuant to its future classification as an expressway, as well as further optimization of traffic signal timings to accommodate future regional demand. Widening of Meridian Road as anticipated in the Briargate Parkway/Stapleton Road CPP may also provide additional mitigation to intersection operations. Additional analysis considering operational results upon roadway widening is provided in Section VII.

It is also noted that long-term operations may be better than shown given the potential for future planned roadway connections to the west along E Woodmen Road to influence vehicle routes. As example, planned construction of future Banning Lewis Parkway within the City of Colorado Springs along E Woodmen Road will provide an additional major north-south arterial roadway which may reduce some of the volumes projected to utilize Meridian Road for north-south travel. It is recommended that County Staff continues to monitor the study intersection in order to determine what mitigation may be most applicable and when implementation of said improvements becomes necessary.

Analysis of future traffic conditions indicates that the addition of site-generated traffic is expected to create some impact to traffic operations for the existing and surrounding roadway system upon consideration of the various roadway and intersection control improvements assumed within this analysis. However, these impacts may be mitigated with long-term County planned Meridian Road corridor improvement projects. As specific site plans and land uses are further defined it is anticipated that updated analyses will be performed in order to determine the extent of contribution to specific mitigation measures by the proposed development as applicable. A summary of all recommended and planned improvements is provided below. With all conservative assumptions defined in this analysis, the study intersections are projected to operate at future levels of service comparable to Year 2040 background traffic conditions. Proposed site access intersections have long-term operations at LOS B or better during peak traffic periods and upon build-out.

This site is subject to the El Paso County Road Impact Fee Program (Resolution 19-471), as amended. An option for payment will be selected at the final land use approval stage.

Recommended Improvements

Table 10 illustrates the recommended roadway and intersection control improvements associated with the proposed Owl Place Commercial development and adjacent area.

Table 10 – Recommended Improvements Summary

IMPROVEMENT	TYPE	TIMING	RESPONSIBILITY
Conversion of Owl Place access intersection to Right-In/Right-Out or Closure	Access	Upon completion of Falcon Market Place Extension	Master planned
Extension of Falcon Market Place north to Owl Place	Roadway Segment	With Final Plat Application(s) / Site Development	Applicant
Extension of Meridian Park Drive south to Owl Place	Roadway Segment	With Final Plat Application(s) / Site Development	Adjacent Development
Restriping of northbound left turn lane to support dual left turn at Eastonville Road	Auxiliary Lane	When Warranted	Whoever warrants the need; i.e. County, City, or Developer
Construct southbound left turn lanes for site accesses along Falcon Market Place	Auxiliary Lane	With Final Plat Application(s) / Site Development	Applicant
Widen Meridian Road to six-lane cross-section	Roadway Segment	By 2060 based on Briargate Parkway CPP	Master planned
Widen E Woodmen Road to six-lane cross-section	Roadway Segment	Based on Expressway Classification per 2040 MTCP	Whoever warrants the need; i.e. County, City, or Developer

Recommended improvements, as shown in Table 10 above, which may be reimbursable under the County’s MTCP include roadway widening and realignment improvements.

Applicant and/or adjacent developers
Updated.

should include right turn decel lanes at access B and C as thresholds in ECM 2.3.7.D have been met

Provide recommended improvements for Owl Place Rd, Owl Place/Falcon Market Place intersection and Owl Place/Meridian Rd interim for interim RIRO condition at Owl Place.

Per previous responses, analysis updated to consider closure of Owl Place only. As such, recommendations for a R/RO interim condition are provided via text in the Additional Analysis section as applicable.

Comment acknowledged. However, it is observed that Falcon Market Place south of Eastonville has been constructed to accommodate a three-lane section with left-turns only as necessary, but no right-turn lanes. It is believed that the northern extension of Falcon Market Place should maintain the same cross-section as the southern portion. Provision of right-turn decel lanes added as a potential improvement item as requested, with additional detail provided via additional analysis text to note that this may be subject to change based on final access spacing. It is understood that should right-turn decel lanes be required, but cannot be reasonably provided due to spacing/roadway geometries, a deviation request may be necessary.

APPENDIX A

Traffic Count Data Signal Timing Information



(303) 216-2439
www.alltrafficdata.net

Location: 1 MERIDIAN ROAD & EAST WOODMEN ROAD AM

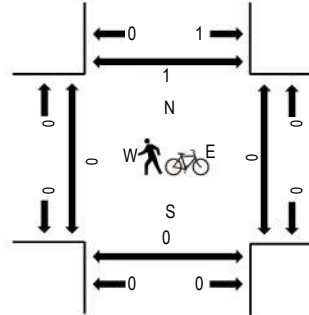
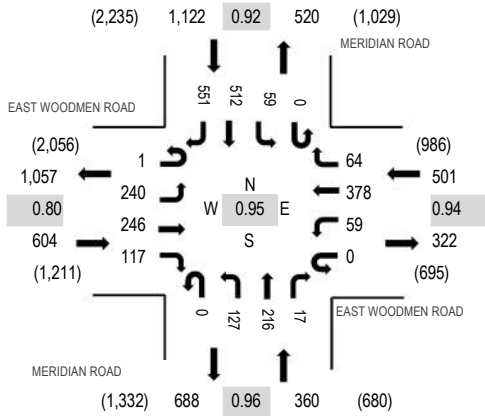
Date: Wednesday, June 1, 2022

Peak Hour: 07:15 AM - 08:15 AM

Peak 15-Minutes: 07:15 AM - 07:30 AM

Peak Hour - All Vehicles

Peak Hour - Pedestrians/Bicycles on Crosswalk



Note: Total study counts contained in parentheses.

Traffic Counts

Interval Start Time	EAST WOODMEN ROAD Eastbound				EAST WOODMEN ROAD Westbound				MERIDIAN ROAD Northbound			MERIDIAN ROAD Southbound				Total	Rolling Hour	Pedestrian Crossings				
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru			Right	West	East	South	North
7:00 AM	0	41	45	41	0	9	112	15	0	26	47	7	0	9	165	127	644	2,584	0	0	0	0
7:15 AM	0	45	61	32	0	16	104	19	0	40	52	1	0	8	144	156	678	2,587	0	0	0	0
7:30 AM	0	55	64	26	0	8	113	17	0	32	52	6	0	13	150	142	678	2,550	0	0	0	0
7:45 AM	0	72	72	30	0	20	78	10	0	28	51	4	0	19	105	95	584	2,509	0	0	0	1
8:00 AM	1	68	49	29	0	15	83	18	0	27	61	6	0	19	113	158	647	2,528	0	0	0	0
8:15 AM	0	60	60	13	0	9	101	17	2	20	56	6	0	25	120	152	641		0	0	0	0
8:30 AM	0	71	67	14	0	15	73	19	0	27	47	7	0	17	123	157	637		0	0	0	0
8:45 AM	0	78	94	23	0	25	69	21	2	27	36	10	1	26	83	108	603		0	0	0	0
Count Total	1	490	512	208	0	117	733	136	4	227	402	47	1	136	1,003	1,095	5,112		0	0	0	1
Peak Hour	1	240	246	117	0	59	378	64	0	127	216	17	0	59	512	551	2,587		0	0	0	1



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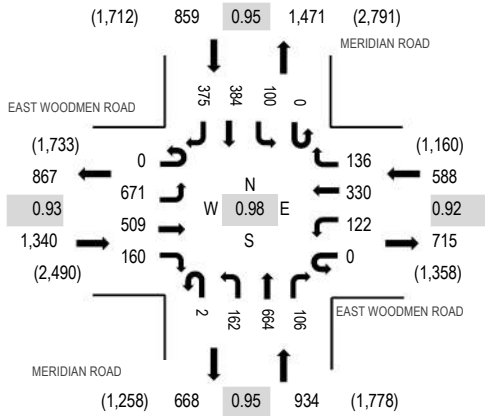
Location: 1 MERIDIAN ROAD & EAST WOODMEN ROAD PM

Date: Wednesday, June 1, 2022

Peak Hour: 04:45 PM - 05:45 PM

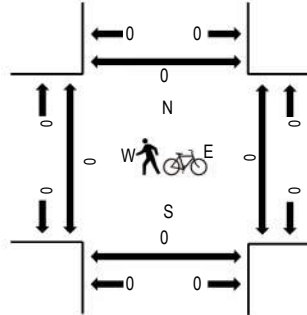
Peak 15-Minutes: 05:30 PM - 05:45 PM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



Traffic Counts

Interval Start Time	EAST WOODMEN ROAD Eastbound				EAST WOODMEN ROAD Westbound				MERIDIAN ROAD Northbound				MERIDIAN ROAD Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
4:00 PM	0	108	100	28	0	21	80	36	0	40	132	23	0	22	100	107	797	3,490	0	0	0	0
4:15 PM	0	142	136	41	1	31	75	33	2	31	141	22	0	24	85	104	868	3,609	0	0	0	0
4:30 PM	0	160	129	25	0	25	82	32	3	32	190	21	0	17	91	100	907	3,678	0	0	0	0
4:45 PM	0	166	113	48	0	26	75	35	1	45	158	32	0	23	100	96	918	3,721	0	0	0	0
5:00 PM	0	147	137	43	0	35	82	29	0	44	171	21	0	31	90	86	916	3,650	0	0	0	0
5:15 PM	0	180	119	27	0	31	89	45	0	30	164	27	0	21	110	94	937		0	0	0	0
5:30 PM	0	178	140	42	0	30	84	27	1	43	171	26	0	25	84	99	950		0	0	0	0
5:45 PM	0	154	101	26	1	24	94	37	0	30	155	22	0	24	88	91	847		0	0	0	0
Count Total	0	1,235	975	280	2	223	661	274	7	295	1,282	194	0	187	748	777	7,140		0	0	0	0
Peak Hour	0	671	509	160	0	122	330	136	2	162	664	106	0	100	384	375	3,721		0	0	0	0



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Location: 2 MERIDIAN ROAD & EASTONVILLE ROAD AM

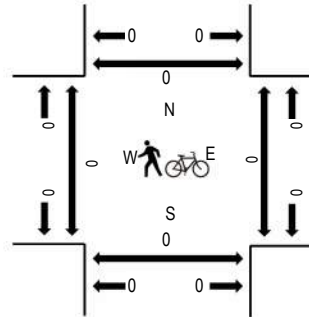
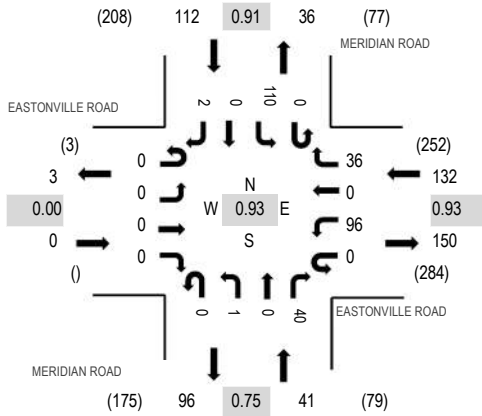
Date: Wednesday, June 1, 2022

Peak Hour: 07:45 AM - 08:45 AM

Peak 15-Minutes: 08:00 AM - 08:15 AM

Peak Hour - All Vehicles

Peak Hour - Pedestrians/Bicycles on Crosswalk



Note: Total study counts contained in parentheses.

Traffic Counts

Interval Start Time	EASTONVILLE ROAD Eastbound				EASTONVILLE ROAD Westbound				MERIDIAN ROAD Northbound				MERIDIAN ROAD Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
7:00 AM	0	0	0	0	0	14	0	12	0	0	0	8	0	21	0	0	55	254	0	0	0	0
7:15 AM	0	0	0	0	0	17	0	11	0	0	0	9	0	24	0	0	61	276	0	0	0	0
7:30 AM	0	0	0	0	0	19	0	9	0	0	0	12	0	29	0	0	69	283	0	0	0	0
7:45 AM	0	0	0	0	0	21	0	7	0	0	0	9	0	31	0	1	69	285	0	0	0	0
8:00 AM	0	0	0	0	0	23	0	10	0	1	0	14	0	29	0	0	77	285	0	0	0	0
8:15 AM	0	0	0	0	0	27	0	8	0	0	0	7	0	26	0	0	68		0	0	0	0
8:30 AM	0	0	0	0	0	25	0	11	0	0	0	10	0	24	0	1	71		0	0	0	0
8:45 AM	0	0	0	0	0	29	0	9	0	0	0	9	0	22	0	0	69		0	0	0	0
Count Total	0	0	0	0	0	175	0	77	0	1	0	78	0	206	0	2	539		0	0	0	0
Peak Hour	0	0	0	0	0	96	0	36	0	1	0	40	0	110	0	2	285		0	0	0	0



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Location: 2 MERIDIAN ROAD & EASTONVILLE ROAD PM

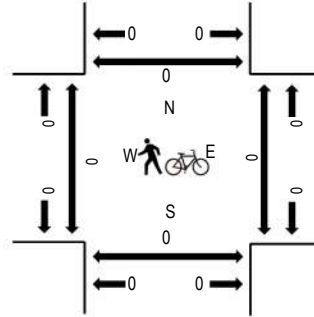
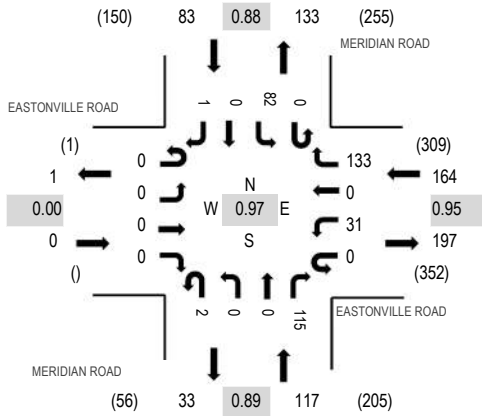
Date: Wednesday, June 1, 2022

Peak Hour: 05:00 PM - 06:00 PM

Peak 15-Minutes: 05:15 PM - 05:30 PM

Peak Hour - All Vehicles

Peak Hour - Pedestrians/Bicycles on Crosswalk



Note: Total study counts contained in parentheses.

Traffic Counts

Interval Start Time	EASTONVILLE ROAD Eastbound				EASTONVILLE ROAD Westbound				MERIDIAN ROAD Northbound				MERIDIAN ROAD Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
4:00 PM	0	0	0	0	0	4	0	23	0	0	0	12	0	14	0	0	53	300	0	0	0	0
4:15 PM	0	0	0	0	0	7	0	27	0	0	0	23	0	13	0	0	70	336	0	0	0	0
4:30 PM	0	0	0	0	0	9	0	39	0	0	0	25	0	16	0	0	89	360	0	0	0	0
4:45 PM	0	0	0	0	0	3	0	33	0	0	0	28	0	24	0	0	88	359	0	0	0	0
5:00 PM	0	0	0	0	0	7	0	36	0	0	0	23	0	23	0	0	89	364	0	0	0	0
5:15 PM	0	0	0	0	0	5	0	31	2	0	0	31	0	24	0	1	94		0	0	0	0
5:30 PM	0	0	0	0	0	9	0	34	0	0	0	30	0	15	0	0	88		0	0	0	0
5:45 PM	0	0	0	0	0	10	0	32	0	0	0	31	0	20	0	0	93		0	0	0	0
Count Total	0	0	0	0	0	54	0	255	2	0	0	203	0	149	0	1	664		0	0	0	0
Peak Hour	0	0	0	0	0	31	0	133	2	0	0	115	0	82	0	1	364		0	0	0	0



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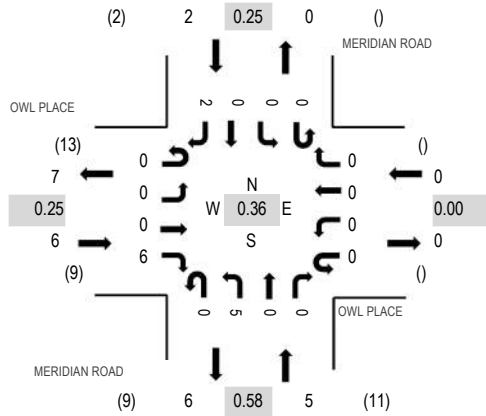
Location: 3 MERIDIAN ROAD & OWL PLACE AM

Date: Wednesday, June 1, 2022

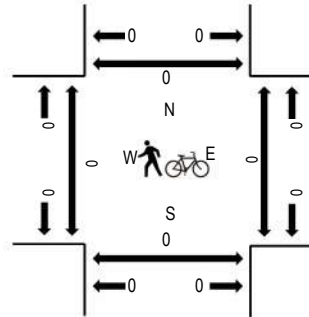
Peak Hour: 07:00 AM - 08:00 AM

Peak 15-Minutes: 07:00 AM - 07:15 AM

Peak Hour - All Vehicles



Peak Hour - Pedestrians/Bicycles on Crosswalk



Note: Total study counts contained in parentheses.

Traffic Counts

Interval Start Time	OWL PLACE Eastbound				OWL PLACE Westbound				MERIDIAN ROAD Northbound				MERIDIAN ROAD Southbound				Total	Rolling Hour	Pedestrian Crossings				
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North	
7:00 AM	0	0	0	6	0	0	0	0	0	1	0	0	0	0	0	0	2	9	13	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	7	0	0	0	0	
7:30 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	8	0	0	0	0	
7:45 AM	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2	8	0	0	0	0	
8:00 AM	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	3	9	0	0	0	0	
8:15 AM	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2		0	0	0	0	
8:30 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1		0	0	0	0	
8:45 AM	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	3		0	0	0	0	
Count Total	0	0	0	9	0	0	0	0	0	11	0	0	0	0	0	0	2	22		0	0	0	0
Peak Hour	0	0	0	6	0	0	0	0	0	5	0	0	0	0	0	0	2	13		0	0	0	0



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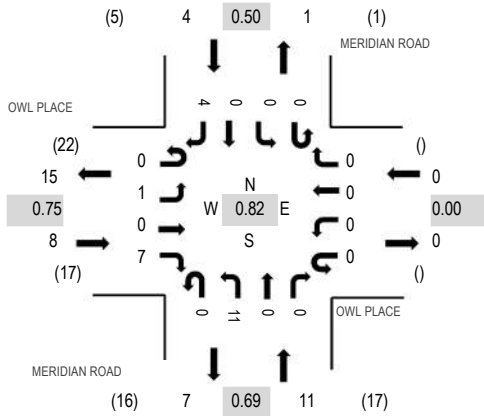
Location: 3 MERIDIAN ROAD & OWL PLACE PM

Date: Wednesday, June 1, 2022

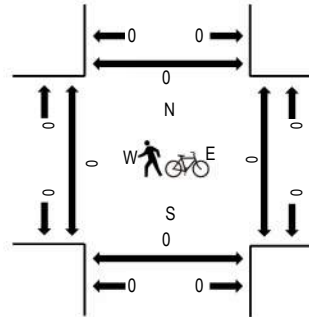
Peak Hour: 04:00 PM - 05:00 PM

Peak 15-Minutes: 04:00 PM - 04:15 PM

Peak Hour - All Vehicles



Peak Hour - Pedestrians/Bicycles on Crosswalk



Note: Total study counts contained in parentheses.

Traffic Counts

Interval Start Time	OWL PLACE Eastbound				OWL PLACE Westbound				MERIDIAN ROAD Northbound			MERIDIAN ROAD Southbound				Total	Rolling Hour	Pedestrian Crossings					
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru			Right	West	East	South	North	
4:00 PM	0	0	0	2	0	0	0	0	0	0	3	0	0	0	0	0	2	7	23	0	0	0	0
4:15 PM	0	1	0	2	0	0	0	0	0	0	2	0	0	0	0	0	1	6	21	0	0	0	0
4:30 PM	0	0	0	2	0	0	0	0	0	0	4	0	0	0	0	0	0	6	18	0	0	0	0
4:45 PM	0	0	0	1	0	0	0	0	0	0	2	0	0	0	0	0	1	4	15	0	0	0	0
5:00 PM	0	0	0	3	0	0	0	0	0	0	2	0	0	0	0	0	0	5	16	0	0	0	0
5:15 PM	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3		0	0	0	0
5:30 PM	0	0	0	1	0	0	0	0	0	0	2	0	0	0	0	0	0	3		0	0	0	0
5:45 PM	0	0	0	2	0	0	0	0	0	0	2	0	0	0	0	0	1	5		0	0	0	0
Count Total	0	1	0	16	0	0	0	0	0	0	17	0	0	0	0	0	5	39		0	0	0	0
Peak Hour	0	1	0	7	0	0	0	0	0	0	11	0	0	0	0	0	4	23		0	0	0	0



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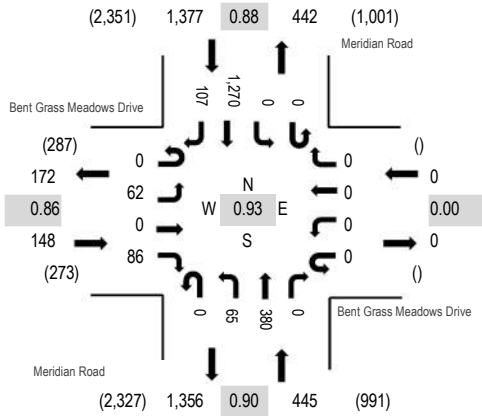
Location: 1 Meridian Road & Bent Grass Meadows Drive AM

Date: Tuesday, March 29, 2022

Peak Hour: 07:00 AM - 08:00 AM

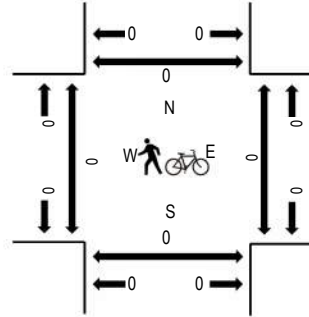
Peak 15-Minutes: 07:15 AM - 07:30 AM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



Traffic Counts

Interval Start Time	Bent Grass Meadows Drive Eastbound				Bent Grass Meadows Drive Westbound				Meridian Road Northbound			Meridian Road Southbound				Total	Rolling Hour	Pedestrian Crossings					
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru			Right	West	East	South	North	
7:00 AM	0	17	0	18	0	0	0	0	0	19	63	0	0	0	0	341	36	494	1,970	0	0	0	0
7:15 AM	0	14	0	29	0	0	0	0	0	17	79	0	0	0	0	366	26	531	1,912	0	0	0	0
7:30 AM	0	13	0	24	0	0	0	0	0	16	97	0	0	0	0	307	21	478	1,794	0	0	0	0
7:45 AM	0	18	0	15	0	0	0	0	0	13	141	0	0	0	0	256	24	467	1,718	0	0	0	0
8:00 AM	0	12	0	15	0	0	0	0	0	12	111	0	0	0	0	259	27	436	1,645	0	0	0	0
8:15 AM	0	16	0	15	0	0	0	0	0	16	138	0	0	0	0	210	18	413		0	0	0	0
8:30 AM	0	18	0	21	0	0	0	0	1	9	115	0	0	0	0	229	9	402		0	0	0	0
8:45 AM	0	13	0	15	0	0	0	0	1	7	136	0	0	0	0	205	17	394		0	0	0	0
Count Total	0	121	0	152	0	0	0	0	2	109	880	0	0	0	0	2,173	178	3,615		0	0	0	0
Peak Hour	0	62	0	86	0	0	0	0	0	65	380	0	0	0	0	1,270	107	1,970		0	0	0	0



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Location: 1 Meridian Road & Bent Grass Meadows Drive PM

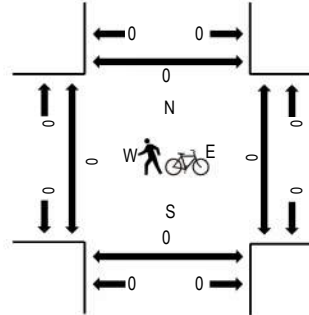
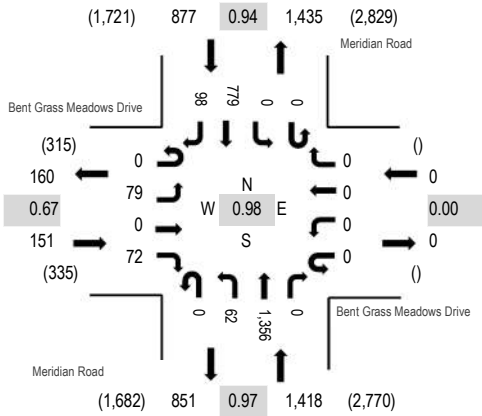
Date: Tuesday, March 29, 2022

Peak Hour: 04:30 PM - 05:30 PM

Peak 15-Minutes: 04:30 PM - 04:45 PM

Peak Hour - All Vehicles

Peak Hour - Pedestrians/Bicycles on Crosswalk



Note: Total study counts contained in parentheses.

Traffic Counts

Interval Start Time	Bent Grass Meadows Drive Eastbound				Bent Grass Meadows Drive Westbound				Meridian Road Northbound			Meridian Road Southbound				Total	Rolling Hour	Pedestrian Crossings				
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru			Right	West	East	South	North
4:00 PM	0	19	0	21	0	0	0	0	0	17	324	0	0	0	196	22	599	2,398	0	0	0	0
4:15 PM	0	21	0	23	0	0	0	0	0	13	308	0	0	0	171	31	567	2,417	0	0	0	0
4:30 PM	0	20	0	19	0	0	0	0	0	15	336	0	0	0	208	25	623	2,446	0	0	0	0
4:45 PM	0	19	0	17	0	0	0	0	0	17	348	0	0	0	182	26	609	2,446	0	0	0	0
5:00 PM	0	20	0	23	0	0	0	0	0	13	342	0	0	0	198	22	618	2,428	0	0	0	0
5:15 PM	0	20	0	13	0	0	0	0	0	17	330	0	0	0	191	25	596		0	0	0	0
5:30 PM	0	47	0	19	0	0	0	0	0	12	317	0	0	0	203	25	623		0	0	0	0
5:45 PM	0	17	0	17	0	0	0	0	0	20	341	0	0	0	181	15	591		0	0	0	0
Count Total	0	183	0	152	0	0	0	0	0	124	2,646	0	0	0	1,530	191	4,826		0	0	0	0
Peak Hour	0	79	0	72	0	0	0	0	0	62	1,356	0	0	0	779	98	2,446		0	0	0	0



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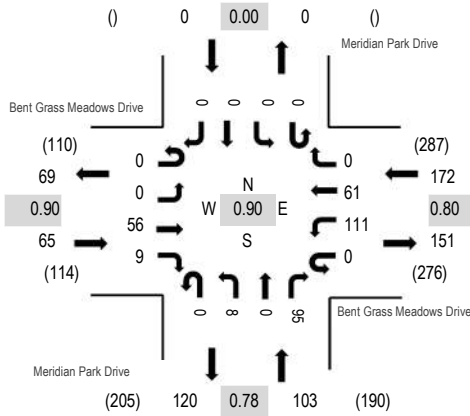
Location: 2 Meridian Park Drive & Bent Grass Meadows Drive AM

Date: Tuesday, March 29, 2022

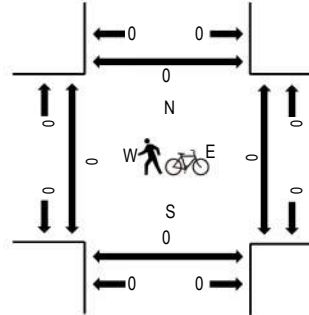
Peak Hour: 07:00 AM - 08:00 AM

Peak 15-Minutes: 07:00 AM - 07:15 AM

Peak Hour - All Vehicles



Peak Hour - Pedestrians/Bicycles on Crosswalk



Note: Total study counts contained in parentheses.

Traffic Counts

Interval Start Time	Bent Grass Meadows Drive Eastbound				Bent Grass Meadows Drive Westbound				Meridian Park Drive Northbound				Meridian Park Drive Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
7:00 AM	0	0	10	4	0	37	17	0	0	2	0	24	0	0	0	0	94	340	0	0	0	0
7:15 AM	0	0	16	2	0	29	13	0	0	4	0	29	0	0	0	0	93	311	0	0	0	0
7:30 AM	0	0	15	2	0	16	19	0	0	1	0	23	0	0	0	0	76	288	0	0	0	0
7:45 AM	0	0	15	1	0	29	12	0	0	1	0	19	0	0	0	0	77	271	0	0	0	0
8:00 AM	0	0	5	1	0	22	14	0	0	0	0	23	0	0	0	0	65	251	0	0	0	0
8:15 AM	0	0	8	3	1	26	10	0	0	0	0	22	0	0	0	0	70		0	0	0	0
8:30 AM	0	0	19	1	0	12	5	0	0	2	0	20	0	0	0	0	59		0	0	0	0
8:45 AM	0	0	10	2	0	18	7	0	0	3	0	17	0	0	0	0	57		0	0	0	0
Count Total	0	0	98	16	1	189	97	0	0	13	0	177	0	0	0	0	591		0	0	0	0
Peak Hour	0	0	56	9	0	111	61	0	0	8	0	95	0	0	0	0	340		0	0	0	0



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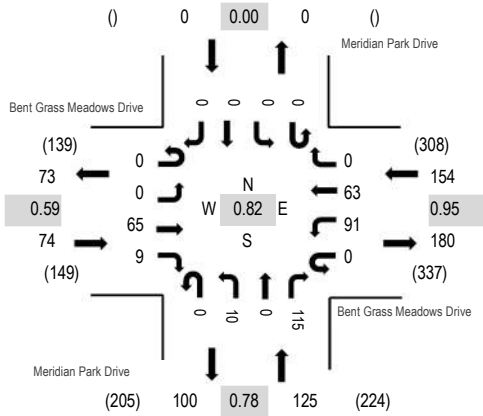
Location: 2 Meridian Park Drive & Bent Grass Meadows Drive PM

Date: Tuesday, March 29, 2022

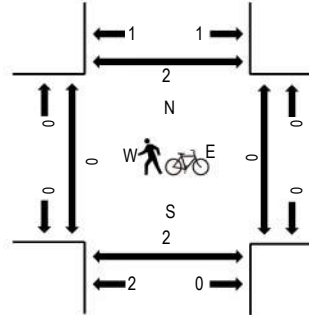
Peak Hour: 04:45 PM - 05:45 PM

Peak 15-Minutes: 05:30 PM - 05:45 PM

Peak Hour - All Vehicles



Peak Hour - Pedestrians/Bicycles on Crosswalk



Note: Total study counts contained in parentheses.

Traffic Counts

Interval Start Time	Bent Grass Meadows Drive Eastbound				Bent Grass Meadows Drive Westbound				Meridian Park Drive Northbound				Meridian Park Drive Southbound				Total	Rolling Hour	Pedestrian Crossings				
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North	
4:00 PM	0	0	19	1	0	23	15	0	0	0	3	0	22	0	0	0	0	83	340	0	0	0	0
4:15 PM	0	0	18	2	0	28	11	0	0	0	2	0	28	0	0	0	0	89	337	0	0	0	0
4:30 PM	0	0	13	3	0	26	17	0	0	0	1	0	23	0	0	0	0	83	328	0	0	0	0
4:45 PM	0	0	11	2	0	29	13	0	0	0	2	0	28	0	0	0	0	85	353	0	0	2	2
5:00 PM	0	0	11	2	0	22	13	0	0	0	2	0	30	0	0	0	0	80	341	0	0	0	0
5:15 PM	0	0	12	2	0	22	21	0	0	0	2	0	21	0	0	0	0	80		0	0	0	0
5:30 PM	0	0	31	3	0	18	16	0	0	0	4	0	36	0	0	0	0	108		0	0	0	0
5:45 PM	0	0	16	3	0	19	15	0	0	0	2	0	18	0	0	0	0	73		0	0	0	0
Count Total	0	0	131	18	0	187	121	0	0	0	18	0	206	0	0	0	0	681		0	0	2	2
Peak Hour	0	0	65	9	0	91	63	0	0	0	10	0	115	0	0	0	0	353		0	0	2	2

Date Start: 29-Mar-22
Site Code: 3
Station ID: 3
MERIDIAN RD S.O. BENT GRASS MEADOWS DR

Start Time	29-Mar-22 Tue	NB	SB	Total
12:00 AM		50	15	65
01:00		19	11	30
02:00		12	18	30
03:00		11	45	56
04:00		24	138	162
05:00		58	358	416
06:00		211	1018	1229
07:00		447	1364	1811
08:00		547	967	1514
09:00		512	805	1317
10:00		562	757	1319
11:00		656	745	1401
12:00 PM		774	756	1530
01:00		798	723	1521
02:00		836	808	1644
03:00		1115	796	1911
04:00		1379	846	2225
05:00		1400	836	2236
06:00		1001	670	1671
07:00		782	438	1220
08:00		521	287	808
09:00		332	164	496
10:00		184	75	259
11:00		77	41	118
Total		12308	12681	24989
Percent		49.3%	50.7%	
AM Peak	-	11:00	07:00	-
Vol.	-	656	1364	-
PM Peak	-	17:00	16:00	-
Vol.	-	1400	846	-
Grand Total		12308	12681	24989
Percent		49.3%	50.7%	
ADT		ADT 24,989	ADT 24,989	

Omni eX v1.4 - Unit & Phase Configuration



Agency: _____ **DATE PREPARED:** 5/4/2022 **By:** DLM
Location: Meridian Road & Bent Grass Meadows **DATE IMPLEMENTED:** _____ **By:** _____
System ID: _____

1.2 Unit Setup																
Auto PED Clr																
Red Revert																
Min Yellow																
TX Diamond																
Diamond Type																

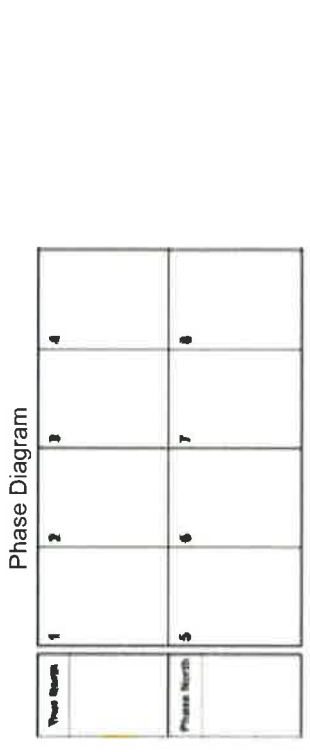
1.4 Channel Setup (1-16)																
Type																
Source																
Alt 1/2 Hz																
Fish Red																
Fish Yel																

1.3 Startup																
Start-Up Phases																
Next Phase																
Flash																
All Red																
Start Veh Call																
Start Ped Call																

1.4 Channel Setup (17-32)																
Type																
Source																
Alt 1/2 Hz																
Fish Red																
Fish Yel																

2.4 Phase Concurrency																
Phase 1																
Phase 2																
Phase 3																
Phase 4																
Phase 5																
Phase 6																
Phase 7																
Phase 8																
Phase 9																
Phase 10																
Phase 11																
Phase 12																
Phase 13																
Phase 14																
Phase 15																
Phase 16																

2.4 Phase Enable and Rings																
Enabled																
Ring1		x														
Ring2			x													
Ring3				x												
Ring3					x											



Agency: _____ Date Prepared: _____ By: _____
 Location: _____ Date Implemented: _____ By: _____
 System ID: _____

1.5.1.1 Nema ABCD Input Mapping

Pins	Function	IDX	Pins	Function	IDX	Pins	Function	IDX	Pins	Function	IDX
A-f	Vehicle Detector	1	B-m	Phase Ped Omit	7	A-k	Man Control Enable	1	D-V	Unused Input	1
A-K	Vehicle Detector	2	B-n	Phase Ped Omit	8	A-q	Mode Select Bit	1	D-W	Unused Input	1
B-N	Vehicle Detector	3	B-U	Phase Omit	1	A-y	Mode Select Bit	2	D-X	Unused Input	1
B-L	Vehicle Detector	4	B-S	Phase Omit	2	A-HH	Mode Select Bit	3	D-Y	Free (no Coord)	1
C-P	Vehicle Detector	5	B-R	Phase Omit	3	A-n	Test	1	D-Z	Unused Input	1
C-S	Vehicle Detector	6	B-g	Phase Omit	4	A-AA	Test	2	D-a	Unused Input	1
C-V	Vehicle Detector	7	C-n	Phase Omit	5	C-b	Test	3	D-b	Alarm	1
C-t	Vehicle Detector	8	C-q	Phase Omit	6	A-BB	Walk Rest Modifier	1	D-c	Alarm	2
A-g	Pedestrian Detector	1	C-r	Phase Omit	7	B-B	Unused Input	1	D-d	Alarm	3
A-L	Pedestrian Detector	2	C-s	Phase Omit	8	B-W	Unused Input	1	D-e	Alarm	4
B-P	Pedestrian Detector	3	A-i	Force Off Ring	1	B-X	Unused Input	1	D-f	Alarm	5
B-M	Pedestrian Detector	4	A-N	Stop Time Ring	1	B-y	Unused Input	1	D-g	Local Flash Sense	1
C-R	Pedestrian Detector	5	A-P	Inhibit Max Ring	1	D-A	Vehicle Detector	9	D-h	Mmu Flash	1
C-T	Pedestrian Detector	6	A-x	Red Rest Ring	1	D-B	Vehicle Detector	10	D-i	Door Ajar	1
C-U	Pedestrian Detector	7	A-FF	Ped Recycle Ring	1	D-C	Vehicle Detector	11	D-j	Special Func Input	1
C-W	Pedestrian Detector	8	A-GG	Max Ii Ring	1	D-D	Vehicle Detector	12	D-k	Special Func Input	2
A-h	Phase Hold	1	A-w	Omit Red Clear Ring	1	D-E	Vehicle Detector	13	D-m	Special Func Input	3
A-M	Phase Hold	2	A-m	Call To Na	1	D-F	Vehicle Detector	14	D-n	Special Func Input	4
B-i	Phase Hold	3	C-Y	Force Off Ring	2	D-G	Vehicle Detector	15	D-p	Special Func Input	5
B-h	Phase Hold	4	C-Z	Stop Time Ring	2	D-H	Vehicle Detector	16	D-q	Special Func Input	6
C-m	Phase Hold	5	C-a	Inhibit Max Ring	2	D-J	Vehicle Detector	17	D-r	Special Func Input	7
C-p	Phase Hold	6	C-u	Red Rest Ring	2	D-K	Vehicle Detector	18	D-s	Special Func Input	8
C-EE	Phase Hold	7	B-V	Ped Recycle Ring	2	D-L	Vehicle Detector	19	D-t	Preempt Detector	1
C-X	Phase Hold	8	B-z	Max Ii Ring	2	D-M	Vehicle Detector	20	D-u	Preempt Detector	2
A-EE	Phase Ped Omit	1	C-v	Omit Red Clear Ring	2	D-N	Vehicle Detector	21	D-v	Preempt Detector	3
A-v	Phase Ped Omit	2	A-z	Call To Na	2	D-P	Vehicle Detector	22	D-w	Preempt Detector	4
B-j	Phase Ped Omit	3	A-R	External Start	1	D-R	Vehicle Detector	23	D-x	Preempt Detector	5
B-x	Phase Ped Omit	4	A-S	Interval Advance	1	D-S	Vehicle Detector	24	D-y	Preempt Detector	6
B-T	Phase Ped Omit	5	A-T	Unused Input	1	D-T	Clock Update	1	D-KK	Unused Input	1
B-k	Phase Ped Omit	6	A-j	Min Recall	1	D-U	Unused Input	1	D-MM	Unused Input	1

1.5.1.2 Nema ABCD Output Mapping

Pins	Function	IDX	Pins	Function	IDX	Pins	Function	IDX	Pins	Function	IDX
A-D	Channel Red	1	B-a	Unused Output	1	C-k	Phase Check	5	A-A	Fault Monitor	1
A-F	Channel Red	2	B-j	Channel Red	10	C-BB	Phase Check	6	A-C	Voltage Monitor	1
B-F	Channel Red	3	C-L	Unused Output	1	C-MM	Phase Check	7	B-FF	Channel Green	15
B-G	Channel Red	4	C-z	Channel Red	11	C-FF	Phase Check	8	B-HH	Channel Yellow	15
C-H	Channel Red	5	C-y	Unused Output	1	B-A	Phase Next	1	B-DD	Channel Red	15
C-G	Channel Red	6	C-C	Channel Red	12	B-C	Phase Next	2	B-w	Channel Green	16
C-F	Channel Red	7	A-a	Unused Output	1	B-t	Phase Next	3	B-EE	Channel Yellow	16
C-D	Channel Red	8	A-H	Channel Yellow	9	B-f	Phase Next	4	B-u	Channel Red	16
A-Z	Channel Yellow	1	B-Z	Unused Output	1	C-M	Phase Next	5	A-X	Flash Logic Output	1
A-h	Channel Yellow	2	B-H	Channel Yellow	10	C-DD	Phase Next	6	D-LL	Detector Reset	1
B-E	Channel Yellow	3	C-K	Unused Output	1	C-PP	Phase Next	7	A-GG	Status A	1
B-c	Channel Yellow	4	C-AA	Channel Yellow	11	C-HH	Phase Next	8	A-r	Status B	1
C-j	Channel Yellow	5	C-KK	Unused Output	1	A-DD	Phase On	1	A-Y	Status C	1
C-h	Channel Yellow	6	C-w	Channel Yellow	12	A-e	Phase On	2	C-A	Status A	2
C-E	Channel Yellow	7	A-t	Unused Output	1	B-s	Phase On	3	C-B	Status B	2
C-e	Channel Yellow	8	A-l	Channel Green	9	B-e	Phase On	4	C-c	Status C	2
A-s	Channel Green	1	B-Y	Unused Output	1	C-N	Phase On	5	D-z	Alarm Output	1
A-c	Channel Green	2	B-d	Channel Green	10	C-CC	Phase On	6	D-AA	Alarm Output	2
B-D	Channel Green	3	C-j	Unused Output	1	C-NN	Phase On	7	D-BB	Special Func Output	1
B-b	Channel Green	4	C-LL	Channel Green	11	C-GG	Phase On	8	D-CC	Special Func Output	2
C-i	Channel Green	5	C-JJ	Unused Output	1	B-AA	Channel Green	13	D-DD	Special Func Output	3
C-g	Channel Green	6	C-d	Channel Green	12	B-p	Channel Yellow	13	D-EE	Special Func Output	4
C-f	Channel Green	7	A-u	Phase Check	1	B-q	Channel Red	13	D-FF	Special Func Output	5
C-x	Channel Green	8	A-d	Phase Check	2	B-GG	Channel Green	14	D-GG	Special Func Output	6
A-E	Unused Output	1	B-r	Phase Check	3	B-BB	Channel Yellow	14	D-HH	Special Func Output	7
A-G	Channel Red	9	B-K	Phase Check	4	B-CC	Channel Red	14	D-JJ	Special Func Output	8



Omni eX v1.4 - 2070 FIO I/O Mapping

Agency: _____ Date Prepared: _____ By: _____
 Location: _____ Date Implemented: _____ By: _____
 System ID: _____

1.5.3.1 2070 FIO Input Mapping			
Pins	Function	Pin	Function
C1-39	Vehicle Detector	C1-67	Ped Detector
C1-40	Vehicle Detector	C1-68	Ped Detector
C1-41	Vehicle Detector	C1-69	Ped Detector
C1-42	Vehicle Detector	C1-70	Ped Detector
C1-43	Vehicle Detector	C1-71	Preempt
C1-44	Vehicle Detector	C1-72	Preempt
C1-45	Vehicle Detector	C1-73	Preempt
C1-46	Vehicle Detector	C1-74	Preempt
C1-47	Vehicle Detector	C1-75	Unused Input
C1-48	Vehicle Detector	C1-76	Vehicle Detector
C1-49	Vehicle Detector	C1-77	Vehicle Detector
C1-50	Vehicle Detector	C1-78	Vehicle Detector
C1-51	Preempt	C1-79	Vehicle Detector
C1-52	Preempt	C1-80	Interval Advance
C1-53	Manual Ctrl	C1-81	CMU Flash
C1-54	Unused Input	C1-82	Stop Time
C1-55	Vehicle Detector	C11-15	Unused Input
C1-56	Vehicle Detector	C11-16	Unused Input
C1-57	Vehicle Detector	C11-17	Unused Input
C1-58	Vehicle Detector	C11-18	Unused Input
C1-59	Vehicle Detector	C11-19	Unused Input
C1-60	Vehicle Detector	C11-20	Unused Input
C1-61	Vehicle Detector	C11-21	Unused Input
C1-62	Vehicle Detector	C11-22	Unused Input
C11-10	Unused Input	C11-23	Unused Input
C11-11	Unused Input	C11-24	Unused Input
C11-12	Unused Input	C11-25	Unused Input
C11-13	Unused Input	C11-26	Unused Input
C1-63	Vehicle Detector	C11-27	Unused Input
C1-64	Vehicle Detector	C11-28	Unused Input
C1-65	Vehicle Detector	C11-29	Unused Input
C1-66	Vehicle Detector	C11-30	Unused Input

1.5.3.2 2070 FIO Output Mapping			
Pins	Function	Pin	Function
C1-02	Channel Red	C1-35	Unused Output
C1-03	Channel Green	C1-36	Unused Output
C1-04	Channel Red	C1-37	Unused Output
C1-05	Channel Yellow	C1-38	Unused Output
C1-06	Channel Green	C1-100	Unused Output
C1-07	Channel Red	C1-101	Flash Status
C1-08	Channel Yellow	C1-102	Detector Reset
C1-09	Channel Green	C1-103	Watchdog
C1-10	Channel Red	C1-83	Unused Output
C1-11	Channel Green	C1-84	Unused Output
C1-12	Channel Red	C1-85	Channel Red
C1-13	Channel Yellow	C1-86	Channel Yellow
C1-15	Channel Green	C1-87	Channel Green
C1-16	Channel Red	C1-88	Channel Red
C1-17	Channel Yellow	C1-89	Channel Yellow
C1-18	Channel Green	C1-90	Channel Green
C1-19	Channel Red	C1-91	Unused Output
C1-20	Channel Green	C1-93	Unused Output
C1-21	Channel Red	C1-94	Channel Red
C1-22	Channel Yellow	C1-95	Channel Yellow
C1-23	Channel Green	C1-96	Channel Green
C1-24	Channel Red	C1-97	Channel Red
C1-25	Channel Yellow	C1-98	Channel Yellow
C1-26	Channel Green	C1-99	Channel Green
C1-27	Channel Red	C11-1	Unused Output
C1-28	Channel Green	C11-2	Unused Output
C1-29	Channel Red	C11-3	Unused Output
C1-30	Channel Yellow	C11-4	Unused Output
C1-31	Channel Green	C11-5	Unused Output
C1-32	Channel Red	C11-6	Unused Output
C1-33	Channel Yellow	C11-7	Unused Output
C1-34	Channel Green	C11-8	Unused Output



Agency: _____ Date Prepared: _____ By: _____
 Location: _____ Date Implemented: _____ By: _____
 System ID: _____

2.3 Phase Sequence 1	
Ring 1	2
Ring 2	5,6,7
Ring 3	
Ring 4	

2.3 Phase Sequence 9	
Ring 1	
Ring 2	
Ring 3	
Ring 4	

Note: Phases 10 through 16 are entered as O,A,B,C,D,E,F

2.3 Phase Sequence 2	
Ring 1	2
Ring 2	5,6,7
Ring 3	
Ring 4	

2.3 Phase Sequence 10	
Ring 1	
Ring 2	
Ring 3	
Ring 4	

2.3 Phase Sequence 3	
Ring 1	2
Ring 2	5,6,7
Ring 3	
Ring 4	

2.3 Phase Sequence 11	
Ring 1	
Ring 2	
Ring 3	
Ring 4	

2.3 Phase Sequence 4	
Ring 1	
Ring 2	
Ring 3	
Ring 4	

2.3 Phase Sequence 12	
Ring 1	
Ring 2	
Ring 3	
Ring 4	

2.3 Phase Sequence 5	
Ring 1	
Ring 2	
Ring 3	
Ring 4	

2.3 Phase Sequence 13	
Ring 1	
Ring 2	
Ring 3	
Ring 4	

2.3 Phase Sequence 6	
Ring 1	
Ring 2	
Ring 3	
Ring 4	

2.3 Phase Sequence 14	
Ring 1	
Ring 2	
Ring 3	
Ring 4	

2.3 Phase Sequence 7	
Ring 1	
Ring 2	
Ring 3	
Ring 4	

2.3 Phase Sequence 15	
Ring 1	
Ring 2	
Ring 3	
Ring 4	

2.3 Phase Sequence 8	
Ring 1	
Ring 2	
Ring 3	
Ring 4	

2.3 Phase Sequence 16	
Ring 1	
Ring 2	
Ring 3	
Ring 4	

Detector Lock	
No Min Yellow	

Detector Lock	
No Min Yellow	



Agency: _____
Location: _____
System ID: _____

Date Prepared: _____ By: _____
Date Implemented: _____ By: _____

3.1 Veh Overlap 1	Set 1
Type	
Included Phases	
Modifier Phases	
Excluded Phases	
Excluded Peds	
Trail Grn	
Trailing Yel	
Trailing Red	
Start Delay	
No Trail Grn Phs	
Call Phases	
Actuated Only	
Detector Lock	
No Min Yellow	

3.1 Veh. Overlap 2	Set 1
Type	
Included Phases	
Modifier Phases	
Excluded Phases	
Excluded Peds	
Trail Grn	
Trailing Yel	
Trailing Red	
Start Delay	
No Trail Grn Phs	
Call Phases	
Actuated Only	
Detector Lock	
No Min Yellow	

3.1 Veh Overlap 3	Set 1
Type	
Included Phases	
Modifier Phases	
Excluded Phases	
Excluded Peds	
Trail Grn	
Trailing Yel	
Trailing Red	
Start Delay	
No Trail Grn Phs	
Call Phases	
Actuated Only	
Detector Lock	
No Min Yellow	

3.1 Veh Overlap 4	Set 1
Type	
Included Phases	
Modifier Phases	
Excluded Phases	
Excluded Peds	
Trail Grn	
Trailing Yel	
Trailing Red	
Start Delay	
No Trail Grn Phs	
Call Phases	
Actuated Only	
Detector Lock	
No Min Yellow	

3.1 Veh Overlap 5	Set 1
Type	
Included Phases	
Modifier Phases	
Excluded Phases	
Excluded Peds	
Trail Grn	
Trailing Yel	
Trailing Red	
Start Delay	
No Trail Grn Phs	
Call Phases	
Actuated Only	

3.1 Veh Overlap 6	Set 1
Type	
Included Phases	
Modifier Phases	
Excluded Phases	
Excluded Peds	
Trail Grn	
Trailing Yel	
Trailing Red	
Start Delay	
No Trail Grn Phs	
Call Phases	
Actuated Only	



Agency: _____
Location: _____
System ID: _____

Date Prepared: _____ By: _____
Date Implemented: _____ By: _____

3.2 Ped Overlap 1	Set 1	Included Phases		3.2 Ped Overlap 2	Set 1	Included Phases	
		Excluded Phases				Excluded Phases	
		Intervals				Intervals	
		Call Phases				Call Phases	
		Actuated Only				Actuated Only	
3.2 Ped Overlap 3	Set 1	Included Phases		3.2 Ped Overlap 4	Set 1	Included Phases	
		Excluded Phases				Excluded Phases	
		Intervals				Intervals	
		Call Phases				Call Phases	
		Actuated Only				Actuated Only	
3.2 Ped Overlap 5	Set 1	Included Phases		3.2 Ped Overlap 6	Set 1	Included Phases	
		Excluded Phases				Excluded Phases	
		Intervals				Intervals	
		Call Phases				Call Phases	
		Actuated Only				Actuated Only	
3.2 Ped Overlap 7	Set 1	Included Phases		3.2 Ped Overlap 8	Set 1	Included Phases	
		Excluded Phases				Excluded Phases	
		Intervals				Intervals	
		Call Phases				Call Phases	
		Actuated Only				Actuated Only	
3.2 Ped Overlap 9	Set 1	Included Phases		3.2 Ped Overlap 10	Set 1	Included Phases	
		Excluded Phases				Excluded Phases	
		Intervals				Intervals	
		Call Phases				Call Phases	
		Actuated Only				Actuated Only	
3.2 Ped Overlap 11	Set 1	Included Phases		3.2 Ped Overlap 12	Set 1	Included Phases	
		Excluded Phases				Excluded Phases	
		Intervals				Intervals	
		Call Phases				Call Phases	
		Actuated Only				Actuated Only	
3.2 Ped Overlap 13	Set 1	Included Phases		3.2 Ped Overlap 14	Set 1	Included Phases	
		Excluded Phases				Excluded Phases	
		Intervals				Intervals	
		Call Phases				Call Phases	
		Actuated Only				Actuated Only	
3.2 Ped Overlap 15	Set 1	Included Phases		3.2 Ped Overlap 16	Set 1	Included Phases	
		Excluded Phases				Excluded Phases	
		Intervals				Intervals	
		Call Phases				Call Phases	
		Actuated Only				Actuated Only	



Omni eX v1.4 - Pedestrian Detector Diagnostics

Agency: _____
 Location: _____
 System ID: _____

DATE PREPARED: _____ By: _____
 DATE IMPLEMENTED: _____ By: _____

4.4 Ped Detector Diag																
Set 1	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
No Activity																
Max. Presence																
Erratic Counts																

4.4 Ped Detector Diag																
Set 2	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
No Activity																
Max. Presence																
Erratic Counts																

4.4 Ped Detector Diag																
Set 3	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
No Activity																
Max. Presence																
Erratic Counts																

4.4 Ped Detector Diag																
Set 4	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
No Activity																
Max. Presence																
Erratic Counts																

4.5 Extra VEH Detector Calls		
DET	Call Phases	Call VEH Overlap
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		
21		
22		
23		
24		
25		
26		
27		
28		
29		
30		
31		
32		

4.6 Extra PED Detector Calls		
DET	Call Phases	Call PED Overlap
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		



Omni eX v1.4 - Patterns

Agency: _____
 Location: Meridian Road & Bent Grass Meadows
 System ID: _____

DATE PREPARED: _____ By: _____
 DATE IMPLEMENTED: _____ By: _____

5.2 Pattern Parameters		1
Cycle Time		120
Offset Time		5
Split		1
Sequence		1
Correction Mode		
Maximum Mode		
Force Mode		Fixed
Perm Strategy		
Omit Strategy		
Early Return		
Texas Diamond		
Max2 Phases		
Phase Timing Set		
Phase Option Set		
Overlap Set		
Veh. Det. Set		
Veh. Det. Diag Set		
Ped. Det. Diag Set		
Priority Set		
Ped Ovlp Set		
Det. Reset		

5.2 Pattern Parameters		2
Cycle Time		100
Offset Time		46
Split		2
Sequence		1
Correction Mode		
Maximum Mode		
Force Mode		Fixed
Perm Strategy		
Omit Strategy		
Early Return		
Texas Diamond		
Max2 Phases		
Phase Timing Set		
Phase Option Set		
Overlap Set		
Veh. Det. Set		
Veh. Det. Diag Set		
Ped. Det. Diag Set		
Priority Set		
Ped Ovlp Set		
Det. Reset		

5.2 Pattern Parameters		3
Cycle Time		120
Offset Time		27
Split		3
Sequence		1
Correction Mode		
Maximum Mode		
Force Mode		Fixed
Perm Strategy		
Omit Strategy		
Early Return		
Texas Diamond		
Max2 Phases		
Phase Timing Set		
Phase Option Set		
Overlap Set		
Veh. Det. Set		
Veh. Det. Diag Set		
Ped. Det. Diag Set		
Priority Set		
Ped Ovlp Set		
Det. Reset		

5.2 Pattern Parameters		4
Cycle Time		
Offset Time		
Split		
Sequence		
Correction Mode		
Maximum Mode		
Force Mode		
Perm Strategy		
Omit Strategy		
Early Return		
Texas Diamond		
Max2 Phases		
Phase Timing Set		
Phase Option Set		
Overlap Set		
Veh. Det. Set		
Veh. Det. Diag Set		
Ped. Det. Diag Set		
Priority Set		
Ped Ovlp Set		
Det. Reset		



Omni eX v1.4 - Day Plans

Agency: _____
Location: Meridian Road & Bent Grass Meadows
System ID: _____

DATE PREPARED: _____
DATE IMPLEMENTED: _____
By: _____
By: _____

6.5 DayPlan 1								
Event#	1	2	3	4	5	6	7	8
Hour	6	9	13	19				
Minute	0	0	30	0				
Action	1	2	3	20				

6.5 DayPlan 1								
Event#	9	10	11	12	13	14	15	16
Hour								
Minute								
Action								

6.5 DayPlan 1								
Event#	17	18	19	20	21	22	23	24
Hour								
Minute								
Action								

6.5 DayPlan 1								
Event#	25	26	27	28	29	30	31	32
Hour								
Minute								
Action								

6.5 DayPlan 2								
Event#	1	2	3	4	5	6	7	8
Hour	10	19						
Minute	0	0						
Action	2	20						

6.5 DayPlan 2								
Event#	9	10	11	12	13	14	15	16
Hour								
Minute								
Action								

6.5 DayPlan 2								
Event#	17	18	19	20	21	22	23	24
Hour								
Minute								
Action								

6.5 DayPlan 2								
Event#	25	26	27	28	29	30	31	32
Hour								
Minute								
Action								



Agency: _____
Location: _____
System ID: _____

Date Prepared: _____ By: _____
Date Implemented: _____ By: _____

6.6 Action Parameters 1	
Pattern	
Auxiliary Function	
Special Function	
Special Function	
Detector VOS Log	
Speed Trap Log	
Cycle MOE Log	
Detector Reset	

6.6 Action Parameters 2	
Pattern	
Auxiliary Function	
Special Function	
Special Function	
Detector VOS Log	
Speed Trap Log	
Cycle MOE Log	
Detector Reset	

6.6 Action Parameters 3	
Pattern	
Auxiliary Function	
Special Function	
Special Function	
Detector VOS Log	
Speed Trap Log	
Cycle MOE Log	
Detector Reset	

6.6 Action Parameters 4	
Pattern	
Auxiliary Function	
Special Function	
Special Function	
Detector VOS Log	
Speed Trap Log	
Cycle MOE Log	
Detector Reset	

6.6 Action Parameters 5	
Pattern	
Auxiliary Function	
Special Function	
Special Function	
Detector VOS Log	
Speed Trap Log	
Cycle MOE Log	
Detector Reset	

6.6 Action Parameters 6	
Pattern	
Auxiliary Function	
Special Function	
Special Function	
Detector VOS Log	
Speed Trap Log	
Cycle MOE Log	
Detector Reset	

6.6 Action Parameters 7	
Pattern	
Auxiliary Function	
Special Function	
Special Function	
Detector VOS Log	
Speed Trap Log	
Cycle MOE Log	
Detector Reset	

6.6 Action Parameters 8	
Pattern	
Auxiliary Function	
Special Function	
Special Function	
Detector VOS Log	
Speed Trap Log	
Cycle MOE Log	
Detector Reset	

6.6 Action Parameters 9	
Pattern	
Auxiliary Function	
Special Function	
Special Function	
Detector VOS Log	
Speed Trap Log	
Cycle MOE Log	
Detector Reset	

6.6 Action Parameters 10	
Pattern	
Auxiliary Function	
Special Function	
Special Function	
Detector VOS Log	
Speed Trap Log	
Cycle MOE Log	
Detector Reset	

6.6 Action Parameters 11	
Pattern	
Auxiliary Function	
Special Function	
Special Function	
Detector VOS Log	
Speed Trap Log	
Cycle MOE Log	
Detector Reset	

6.6 Action Parameters 12	
Pattern	
Auxiliary Function	
Special Function	
Special Function	
Detector VOS Log	
Speed Trap Log	
Cycle MOE Log	
Detector Reset	

6.6 Action Parameters 13	
Pattern	
Auxiliary Function	
Special Function	
Special Function	
Detector VOS Log	
Speed Trap Log	
Cycle MOE Log	
Detector Reset	

6.6 Action Parameters 14	
Pattern	
Auxiliary Function	
Special Function	
Special Function	
Detector VOS Log	
Speed Trap Log	
Cycle MOE Log	
Detector Reset	

6.6 Action Parameters 15	
Pattern	
Auxiliary Function	
Special Function	
Special Function	
Detector VOS Log	
Speed Trap Log	
Cycle MOE Log	
Detector Reset	

Omni eX v1.4 - Transit Priority



Agency: _____ Date Prepared: _____ By: _____
 Location: _____ Date Implemented: _____ By: _____
 System ID: _____

8.1 TSP Global Options	
Enable	
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	
15	
16	
Headway	
Lockout	
Node	
Name	

8.2 TSP Strategy Options		Strategy 1	Set 1
Enable			
Override + 1			
Service Phases			
Call Phases			
Omit Phases			
Omit Peds			
Queue lump Ph			
ETA			
Input Function			
Input Index			
Input Type			
Request Mode			
Checkout Mode			
Checkout Time			
Max Presence			
Max Presence Clr			
Min ON Time			
Min OFF Time			
Delay Time			
Extend Time			
Headway Time			
Preempt Lockout			

8.2 TSP Strategy Options		Strategy 2	Set 1
Enable			
Override + 1			
Service Phases			
Call Phases			
Omit Phases			
Omit Peds			
Queue lump Ph			
ETA			
Input Function			
Input Index			
Input Type			
Request Mode			
Checkout Mode			
Checkout Time			
Max Presence			
Max Presence Clr			
Min ON Time			
Min OFF Time			
Delay Time			
Extend Time			
Headway Time			
Preempt Lockout			

8.2 TSP Strategy Options		Strategy 3	Set 1
Enable			
Override + 1			
Service Phases			
Call Phases			
Omit Phases			
Omit Peds			
Queue lump Ph			
ETA			
Input Function			
Input Index			
Input Type			
Request Mode			
Checkout Mode			
Checkout Time			
Max Presence			
Max Presence Clr			
Min ON Time			
Min OFF Time			
Delay Time			
Extend Time			
Headway Time			
Preempt Lockout			

8.2 TSP Strategy Options		Strategy 4	Set 1
Enable			
Override + 1			
Service Phases			
Call Phases			
Omit Phases			
Omit Peds			
Queue lump Ph			
ETA			
Input Function			
Input Index			
Input Type			
Request Mode			
Checkout Mode			
Checkout Time			
Max Presence			
Max Presence Clr			
Min ON Time			
Min OFF Time			
Delay Time			
Extend Time			
Headway Time			
Preempt Lockout			

8.2 TSP Strategy Options		Strategy 5	Set 1
Enable			
Override + 1			
Service Phases			
Call Phases			
Omit Phases			
Omit Peds			
Queue lump Ph			
ETA			
Input Function			
Input Index			
Input Type			
Request Mode			
Checkout Mode			
Checkout Time			
Max Presence			
Max Presence Clr			
Min ON Time			
Min OFF Time			
Delay Time			
Extend Time			
Headway Time			
Preempt Lockout			

8.2 TSP Strategy Options		Strategy 6	Set 1
Enable			
Override + 1			
Service Phases			
Call Phases			
Omit Phases			
Omit Peds			
Queue lump Ph			
ETA			
Input Function			
Input Index			
Input Type			
Request Mode			
Checkout Mode			
Checkout Time			
Max Presence			
Max Presence Clr			
Min ON Time			
Min OFF Time			
Delay Time			
Extend Time			
Headway Time			
Preempt Lockout			



Omni eX v1.4 - Log Configuration

Agency: _____
Location: _____
System ID: _____

Date Prepared: _____ **By:** _____
Date Implemented: _____ **By:** _____

9.3-4 Log Configuration	
Volume Occupancy Period	
VOS Log Combined Periods	
Speed Trap Log Period	
Display Metric	
Speed Trap Log Mode	
VOS Log Mode	
Cycle MOE Log Mode	
Power On/Off	
Low Battery	
Cycle Fault	
Coord Fault	
Coord Fail	
Cycle Fail	
MMU Flash	
Local Flash	
Local Free	
Preempt Status Change	
Response Fault	
Alarm Status Change	
Door Status Change	
Pattern Change	
Detector Status Change	
Comm Status Change	
Command Change	
Data Change Keyboard	
Controller Download	
Access Code	
Priority	

6.2 Time Zone	
Global DST	
Standard Time Zone (+/- hr)	

A.3 Unit Comms	
Unit Backup Time	

1.7 Port 1																			
Device	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Device Present																			
Frame40 Enable																			

1.5.5 Aux Switch	
Function	
Index	

A.5-6 Time Sync	
NTP Server Address	
NTP Start Hour	
NTP Start Minute	
NTP Interval Hour	
NTP Interval Minute	
GPS Start Hour	
GPS Start Minute	
GPS Interval Hour	
GPS Interval Minute	
Enable NTP Svr	



Agency: _____
Location: _____
System ID: _____

Date Prepared: _____ By: _____
Date Implemented: _____ By: _____

A.1 Serial Comms						
Port	1	2	3	4	5	8
Protocol						
Speed						
Parity						
Flow Control						
Address						
Group Address						
Data Bits						
Stop Bits						
CTS Delay						
RTS Extend						

A.2 Ethernet Comms		
Port	1	2
IP Address		
Net Mask		
Gateway		
NTCIP Port		
NTCIP Mode		
AB3418 Port		
AB3418 Mode		
AB3418 Address		
AB3418 Group Address		

Omni eX v1.4 - Unit & Phase Configuration



Agency: _____ **DATE PREPARED:** 5/4/2022 **By:** DLM
Location: Meridian Road & Eastonville Road **DATE IMPLEMENTED:** _____
System ID: _____ **By:** _____

1.2 Unit Setup	
Auto PED Cir	
Red Revert	
Min Yellow	
TX Diamond	
Diamond Type	

1.4 Channel Setup (1-16)																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Type																
Source																
Alt 1/2 Hz																
Flsh Red																
Flsh Yel																

B-3 System Information	
System Id	
Name	
Location	

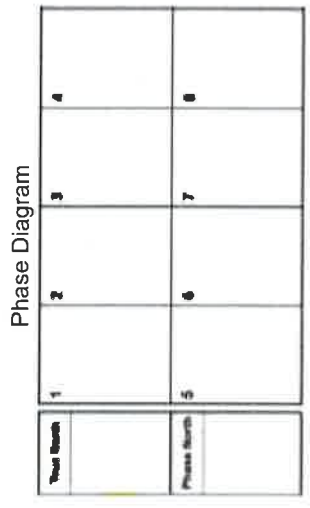
1.3 Startup	
Start-Up Phases	
Next Phase	
Flash	
All Red	
Start Veh Call	
Start Ped Call	

1.4 Channel Setup (17-32)																
	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
Type																
Source																
Alt 1/2 Hz																
Flsh Red																
Flsh Yel																

5.1 Coordination Constants	
Correction Mode	Shortway
Max Cycles Trans	3
Coord Max Mode	Max Inhibit
Coord Force Mode	Fixed
Perm Strategy	Maximum
Omit Strategy	Minimum
Sync Point	Begin Yellow
No Early Return	Disable
Sync Ref Time	0
Operational Mode	

2.4 Phase Concurrency																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Phase 1																
Phase 2																
Phase 3																
Phase 4																
Phase 5																
Phase 6																
Phase 7																
Phase 8																
Phase 9																
Phase 10																
Phase 11																
Phase 12																
Phase 13																
Phase 14																
Phase 15																
Phase 16																

2.4 Phase Enable and Rings																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Enabled	x	x	x	x	x	x	x	x								
Ring1	x	x	x	x												
Ring2					x	x	x	x								
Ring3																
Ring4																



Agency: _____
 Location: _____
 System ID: _____

Date Prepared: _____ By: _____
 Date Implemented: _____ By: _____

1.5.1.1 Nema ABCD Input Mapping											
Pins	Function	IDX	Pins	Function	IDX	Pins	Function	IDX	Pins	Function	IDX
A-f	Vehicle Detector	1	B-m	Phase Ped Omit	7	A-k	Man Control Enable	1	D-V	Unused Input	1
A-K	Vehicle Detector	2	B-n	Phase Ped Omit	8	A-q	Mode Select Bit	1	D-W	Unused Input	1
B-N	Vehicle Detector	3	B-U	Phase Omit	1	A-y	Mode Select Bit	2	D-X	Unused Input	1
B-L	Vehicle Detector	4	B-S	Phase Omit	2	A-HH	Mode Select Bit	3	D-Y	Free (no Coord)	1
C-P	Vehicle Detector	5	B-R	Phase Omit	3	A-n	Test	1	D-Z	Unused Input	1
C-S	Vehicle Detector	6	B-g	Phase Omit	4	A-AA	Test	2	D-a	Unused Input	1
C-V	Vehicle Detector	7	C-n	Phase Omit	5	C-b	Test	3	D-b	Alarm	1
C-t	Vehicle Detector	8	C-q	Phase Omit	6	A-BB	Walk Rest Modifier	1	D-c	Alarm	2
A-g	Pedestrian Detector	1	C-r	Phase Omit	7	B-B	Unused Input	1	D-d	Alarm	3
A-L	Pedestrian Detector	2	C-s	Phase Omit	8	B-W	Unused Input	1	D-e	Alarm	4
B-P	Pedestrian Detector	3	A-i	Force Off Ring	1	B-X	Unused Input	1	D-f	Alarm	5
B-M	Pedestrian Detector	4	A-N	Stop Time Ring	1	B-v	Unused Input	1	D-g	Local Flash Sense	1
C-R	Pedestrian Detector	5	A-P	Inhibit Max Ring	1	D-A	Vehicle Detector	9	D-h	Mmu Flash	1
C-T	Pedestrian Detector	6	A-x	Red Rest Ring	1	D-B	Vehicle Detector	10	D-i	Door Ajar	1
C-U	Pedestrian Detector	7	A-FF	Ped Recycle Ring	1	D-C	Vehicle Detector	11	D-j	Special Func Input	1
C-W	Pedestrian Detector	8	A-GG	Max li Ring	1	D-D	Vehicle Detector	12	D-k	Special Func Input	2
A-h	Phase Hold	1	A-w	Omit Red Clear Ring	1	D-E	Vehicle Detector	13	D-m	Special Func Input	3
A-M	Phase Hold	2	A-m	Call To Na	1	D-F	Vehicle Detector	14	D-n	Special Func Input	4
B-i	Phase Hold	3	C-Y	Force Off Ring	2	D-G	Vehicle Detector	15	D-p	Special Func Input	5
B-h	Phase Hold	4	C-Z	Stop Time Ring	2	D-H	Vehicle Detector	16	D-q	Special Func Input	6
C-m	Phase Hold	5	C-a	Inhibit Max Ring	2	D-J	Vehicle Detector	17	D-r	Special Func Input	7
C-p	Phase Hold	6	C-u	Red Rest Ring	2	D-K	Vehicle Detector	18	D-s	Special Func Input	8
C-EE	Phase Hold	7	B-V	Ped Recycle Ring	2	D-L	Vehicle Detector	19	D-t	Preempt Detector	1
C-X	Phase Hold	8	B-z	Max li Ring	2	D-M	Vehicle Detector	20	D-u	Preempt Detector	2
A-EE	Phase Ped Omit	1	C-v	Omit Red Clear Ring	2	D-N	Vehicle Detector	21	D-v	Preempt Detector	3
A-v	Phase Ped Omit	2	A-z	Call To Na	2	D-P	Vehicle Detector	22	D-w	Preempt Detector	4
B-j	Phase Ped Omit	3	A-R	External Start	1	D-R	Vehicle Detector	23	D-x	Preempt Detector	5
B-x	Phase Ped Omit	4	A-S	Interval Advance	1	D-S	Vehicle Detector	24	D-y	Preempt Detector	6
B-T	Phase Ped Omit	5	A-T	Unused Input	1	D-T	Clock Update	1	D-KK	Unused Input	1
B-k	Phase Ped Omit	6	A-j	Min Recall	1	D-U	Unused Input	1	D-MM	Unused Input	1

1.5.1.2 Nema ABCD Output Mapping											
Pins	Function	IDX	Pins	Function	IDX	Pins	Function	IDX	Pins	Function	IDX
A-D	Channel Red	1	B-a	Unused Output	1	C-k	Phase Check	5	A-A	Fault Monitor	1
A-F	Channel Red	2	B-l	Channel Red	10	C-BB	Phase Check	6	A-C	Voltage Monitor	1
B-F	Channel Red	3	C-L	Unused Output	1	C-MM	Phase Check	7	B-FF	Channel Green	15
B-G	Channel Red	4	C-z	Channel Red	11	C-FF	Phase Check	8	B-HH	Channel Yellow	15
C-H	Channel Red	5	C-y	Unused Output	1	B-A	Phase Next	1	B-DD	Channel Red	15
C-G	Channel Red	6	C-C	Channel Red	12	B-C	Phase Next	2	B-w	Channel Green	16
C-F	Channel Red	7	A-a	Unused Output	1	B-t	Phase Next	3	B-EE	Channel Yellow	16
C-D	Channel Red	8	A-H	Channel Yellow	9	B-f	Phase Next	4	B-u	Channel Red	16
A-Z	Channel Yellow	1	B-Z	Unused Output	1	C-M	Phase Next	5	A-X	Flash Logic Output	1
A-b	Channel Yellow	2	B-H	Channel Yellow	10	C-DD	Phase Next	6	D-LL	Detector Reset	1
B-E	Channel Yellow	3	C-K	Unused Output	1	C-PP	Phase Next	7	A-CC	Status A	1
B-c	Channel Yellow	4	C-AA	Channel Yellow	11	C-HH	Phase Next	8	A-r	Status B	1
C-j	Channel Yellow	5	C-KK	Unused Output	1	A-DD	Phase On	1	A-Y	Status C	1
C-h	Channel Yellow	6	C-w	Channel Yellow	12	A-e	Phase On	2	C-A	Status A	2
C-E	Channel Yellow	7	A-t	Unused Output	1	B-s	Phase On	3	C-B	Status B	2
C-e	Channel Yellow	8	A-j	Channel Green	9	B-e	Phase On	4	C-c	Status C	2
A-s	Channel Green	1	B-Y	Unused Output	1	C-N	Phase On	5	D-z	Alarm Output	1
A-c	Channel Green	2	B-d	Channel Green	10	C-CC	Phase On	6	D-AA	Alarm Output	2
B-D	Channel Green	3	C-j	Unused Output	1	C-NN	Phase On	7	D-BB	Special Func Output	1
B-b	Channel Green	4	C-LL	Channel Green	11	C-GG	Phase On	8	D-CC	Special Func Output	2
C-i	Channel Green	5	C-JJ	Unused Output	1	B-AA	Channel Green	13	D-DD	Special Func Output	3
C-g	Channel Green	6	C-d	Channel Green	12	B-p	Channel Yellow	13	D-EE	Special Func Output	4
C-f	Channel Green	7	A-u	Phase Check	1	B-q	Channel Red	13	D-FF	Special Func Output	5
C-x	Channel Green	8	A-d	Phase Check	2	B-GG	Channel Green	14	D-GG	Special Func Output	6
A-E	Unused Output	1	B-r	Phase Check	3	B-BB	Channel Yellow	14	D-HH	Special Func Output	7
A-G	Channel Red	9	B-K	Phase Check	4	B-CC	Channel Red	14	D-JJ	Special Func Output	8



Omni eX v1.4 - 2070 FIO I/O Mapping

Agency: _____ **Date Prepared:** _____ **By:** _____
Location: _____ **Date Implemented:** _____ **By:** _____
System ID: _____

1.5.3.1 2070 FIO Input Mapping					
Pins	Function	IDX	Pins	Function	IDX
C1-39	Vehicle Detector	2	C1-67	Ped Detector	1
C1-40	Vehicle Detector	16	C1-68	Ped Detector	3
C1-41	Vehicle Detector	8	C1-69	Ped Detector	2
C1-42	Vehicle Detector	22	C1-70	Ped Detector	4
C1-43	Vehicle Detector	3	C1-71	Preempt	3
C1-44	Vehicle Detector	17	C1-72	Preempt	4
C1-45	Vehicle Detector	9	C1-73	Preempt	5
C1-46	Vehicle Detector	23	C1-74	Preempt	6
C1-47	Vehicle Detector	6	C1-75	Unused Input	
C1-48	Vehicle Detector	20	C1-76	Vehicle Detector	5
C1-49	Vehicle Detector	12	C1-77	Vehicle Detector	19
C1-50	Vehicle Detector	26	C1-78	Vehicle Detector	11
C1-51	Preempt	1	C1-79	Vehicle Detector	25
C1-52	Preempt	2	C1-80	Interval Advance	
C1-53	Manual Ctrl		C1-81	CMU Flash	
C1-54	Unused Input		C1-82	Stop Time	
C1-55	Vehicle Detector	15	C11-15	Unused Input	
C1-56	Vehicle Detector	1	C11-16	Unused Input	
C1-57	Vehicle Detector	21	C11-17	Unused Input	
C1-58	Vehicle Detector	7	C11-18	Unused Input	
C1-59	Vehicle Detector	27	C11-19	Unused Input	
C1-60	Vehicle Detector	13	C11-20	Unused Input	
C1-61	Vehicle Detector	28	C11-21	Unused Input	
C1-62	Vehicle Detector	14	C11-22	Unused Input	
C11-10	Unused Input		C11-23	Unused Input	
C11-11	Unused Input		C11-24	Unused Input	
C11-12	Unused Input		C11-25	Unused Input	
C11-13	Unused Input		C11-26	Unused Input	
C1-63	Vehicle Detector	4	C11-27	Unused Input	
C1-64	Vehicle Detector	18	C11-28	Unused Input	
C1-65	Vehicle Detector	10	C11-29	Unused Input	
C1-66	Vehicle Detector	24	C11-30	Unused Input	

1.5.3.2 2070 FIO Output Mapping					
Pins	Function	IDX	Pins	Function	IDX
C1-02	Channel Red	6	C1-35	Unused Output	
C1-03	Channel Green	6	C1-36	Unused Output	
C1-04	Channel Red	5	C1-37	Unused Output	
C1-05	Channel Yellow	5	C1-38	Unused Output	
C1-06	Channel Green	5	C1-100	Unused Output	
C1-07	Channel Red	4	C1-101	Flash Status	
C1-08	Channel Yellow	4	C1-102	Detector Reset	
C1-09	Channel Green	4	C1-103	Watchdog	
C1-10	Channel Red	3	C1-83	Unused Output	
C1-11	Channel Green	3	C1-84	Unused Output	
C1-12	Channel Red	2	C1-85	Channel Red	16
C1-13	Channel Yellow	2	C1-86	Channel Yellow	16
C1-15	Channel Green	2	C1-87	Channel Green	16
C1-16	Channel Red	1	C1-88	Channel Red	15
C1-17	Channel Yellow	1	C1-89	Channel Yellow	15
C1-18	Channel Green	1	C1-90	Channel Green	15
C1-19	Channel Red	12	C1-91	Unused Output	
C1-20	Channel Green	12	C1-93	Unused Output	
C1-21	Channel Red	11	C1-94	Channel Red	14
C1-22	Channel Yellow	11	C1-95	Channel Yellow	14
C1-23	Channel Green	11	C1-96	Channel Green	14
C1-24	Channel Red	10	C1-97	Channel Red	13
C1-25	Channel Yellow	10	C1-98	Channel Yellow	13
C1-26	Channel Green	10	C1-99	Channel Green	13
C1-27	Channel Red	9	C11-1	Unused Output	
C1-28	Channel Green	9	C11-2	Unused Output	
C1-29	Channel Red	8	C11-3	Unused Output	
C1-30	Channel Yellow	8	C11-4	Unused Output	
C1-31	Channel Green	8	C11-5	Unused Output	
C1-32	Channel Red	7	C11-6	Unused Output	
C1-33	Channel Yellow	7	C11-7	Unused Output	
C1-34	Channel Green	7	C11-8	Unused Output	



Agency: _____
Location: _____
System ID: _____

Date Prepared: _____ By: _____
Date Implemented: _____ By: _____

2.3 Phase Sequence 1	
Ring 1	1,2,3,4
Ring 2	5,6,7,8
Ring 3	
Ring 4	

2.3 Phase Sequence 9	
Ring 1	
Ring 2	
Ring 3	
Ring 4	

Note: Phases 10 through 16 are entered as 0,A,B,C,D,E,F

2.3 Phase Sequence 2	
Ring 1	
Ring 2	
Ring 3	
Ring 4	

2.3 Phase Sequence 10	
Ring 1	
Ring 2	
Ring 3	
Ring 4	

2.3 Phase Sequence 3	
Ring 1	
Ring 2	
Ring 3	
Ring 4	

2.3 Phase Sequence 11	
Ring 1	
Ring 2	
Ring 3	
Ring 4	

2.3 Phase Sequence 4	
Ring 1	
Ring 2	
Ring 3	
Ring 4	

2.3 Phase Sequence 12	
Ring 1	
Ring 2	
Ring 3	
Ring 4	

2.3 Phase Sequence 5	
Ring 1	
Ring 2	
Ring 3	
Ring 4	

2.3 Phase Sequence 13	
Ring 1	
Ring 2	
Ring 3	
Ring 4	

2.3 Phase Sequence 6	
Ring 1	
Ring 2	
Ring 3	
Ring 4	

2.3 Phase Sequence 14	
Ring 1	
Ring 2	
Ring 3	
Ring 4	

2.3 Phase Sequence 7	
Ring 1	
Ring 2	
Ring 3	
Ring 4	

2.3 Phase Sequence 15	
Ring 1	
Ring 2	
Ring 3	
Ring 4	

2.3 Phase Sequence 8	
Ring 1	
Ring 2	
Ring 3	
Ring 4	

2.3 Phase Sequence 16	
Ring 1	
Ring 2	
Ring 3	
Ring 4	

Detector Lock	
No Min Yellow	

Detector Lock	
No Min Yellow	



Omni eX v1.4 - Vehicle Overlaps

Agency: _____
Location: _____
System ID: _____

Date Prepared: _____ By: _____
Date Implemented: _____ By: _____

3.1 Veh Overlap 1	Set 1
Type	
Included Phases	
Modifier Phases	
Excluded Phases	
Excluded Peds	
Trail Grn	
Trailing Yel	
Trailing Red	
Start Delay	
No Trail Grn Phs	
Call Phases	
Actuated Only	
Detector Lock	
No Min Yellow	

3.1 Veh. Overlap 2	Set 1
Type	
Included Phases	
Modifier Phases	
Excluded Phases	
Excluded Peds	
Trail Grn	
Trailing Yel	
Trailing Red	
Start Delay	
No Trail Grn Phs	
Call Phases	
Actuated Only	
Detector Lock	
No Min Yellow	

3.1 Veh Overlap 3	Set 1
Type	
Included Phases	
Modifier Phases	
Excluded Phases	
Excluded Peds	
Trail Grn	
Trailing Yel	
Trailing Red	
Start Delay	
No Trail Grn Phs	
Call Phases	
Actuated Only	
Detector Lock	
No Min Yellow	

3.1 Veh Overlap 4	Set 1
Type	
Included Phases	
Modifier Phases	
Excluded Phases	
Excluded Peds	
Trail Grn	
Trailing Yel	
Trailing Red	
Start Delay	
No Trail Grn Phs	
Call Phases	
Actuated Only	
Detector Lock	
No Min Yellow	

3.1 Veh Overlap 5	Set 1
Type	
Included Phases	
Modifier Phases	
Excluded Phases	
Excluded Peds	
Trail Grn	
Trailing Yel	
Trailing Red	
Start Delay	
No Trail Grn Phs	
Call Phases	
Actuated Only	

3.1 Veh Overlap 6	Set 1
Type	
Included Phases	
Modifier Phases	
Excluded Phases	
Excluded Peds	
Trail Grn	
Trailing Yel	
Trailing Red	
Start Delay	
No Trail Grn Phs	
Call Phases	
Actuated Only	



Agency: _____
Location: _____
System ID: _____

Date Prepared: _____ By: _____
Date Implemented: _____ By: _____

3.2 Ped Overlap 1	Set 1	3.2 Ped Overlap 2	Set 1
Included Phases		Included Phases	
Excluded Phases		Excluded Phases	
Intervals		Intervals	
Call Phases		Call Phases	
Actuated Only		Actuated Only	
3.2 Ped Overlap 3	Set 1	3.2 Ped Overlap 4	Set 1
Included Phases		Included Phases	
Excluded Phases		Excluded Phases	
Intervals		Intervals	
Call Phases		Call Phases	
Actuated Only		Actuated Only	
3.2 Ped Overlap 5	Set 1	3.2 Ped Overlap 6	Set 1
Included Phases		Included Phases	
Excluded Phases		Excluded Phases	
Intervals		Intervals	
Call Phases		Call Phases	
Actuated Only		Actuated Only	
3.2 Ped Overlap 7	Set 1	3.2 Ped Overlap 8	Set 1
Included Phases		Included Phases	
Excluded Phases		Excluded Phases	
Intervals		Intervals	
Call Phases		Call Phases	
Actuated Only		Actuated Only	
3.2 Ped Overlap 9	Set 1	3.2 Ped Overlap 10	Set 1
Included Phases		Included Phases	
Excluded Phases		Excluded Phases	
Intervals		Intervals	
Call Phases		Call Phases	
Actuated Only		Actuated Only	
3.2 Ped Overlap 11	Set 1	3.2 Ped Overlap 12	Set 1
Included Phases		Included Phases	
Excluded Phases		Excluded Phases	
Intervals		Intervals	
Call Phases		Call Phases	
Actuated Only		Actuated Only	
3.2 Ped Overlap 13	Set 1	3.2 Ped Overlap 14	Set 1
Included Phases		Included Phases	
Excluded Phases		Excluded Phases	
Intervals		Intervals	
Call Phases		Call Phases	
Actuated Only		Actuated Only	
3.2 Ped Overlap 15	Set 1	3.2 Ped Overlap 16	Set 1
Included Phases		Included Phases	
Excluded Phases		Excluded Phases	
Intervals		Intervals	
Call Phases		Call Phases	
Actuated Only		Actuated Only	



Omni eX v1.4 - Pedestrian Detector Diagnostics

Agency: _____ DATE PREPARED: _____ By: _____
 Location: _____ DATE IMPLEMENTED: _____ By: _____
 System ID: _____

4.4 Ped Detector Diag																
Set 1	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
No Activity																
Max. Presence																
Erratic Counts																

4.4 Ped Detector Diag																
Set 2	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
No Activity																
Max. Presence																
Erratic Counts																

4.4 Ped Detector Diag																
Set 3	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
No Activity																
Max. Presence																
Erratic Counts																

4.4 Ped Detector Diag																
Set 4	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
No Activity																
Max. Presence																
Erratic Counts																

4.5 Extra VEH Detector Calls		
DET	Call Phases	Call VEH Overlap
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		
21		
22		
23		
24		
25		
26		
27		
28		
29		
30		
31		
32		

4.6 Extra PED Detector Calls		
DET	Call Phases	Call PED Overlap
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		



Omni eX v1.4 - Patterns

Agency: _____
 Location: Meridian Road & Eastonville Road
 System ID: _____

DATE PREPARED: _____ By: _____
 DATE IMPLEMENTED: _____ By: _____

5.2 Pattern Parameters		1
Cycle Time		120
Offset Time		45
Split		1
Sequence		1
Correction Mode		
Maximum Mode		
Force Mode		Fixed
Perm Strategy		
Omit Strategy		
Early Return		
Texas Diamond		
Max2 Phases		
Phase Timing Set		
Phase Option Set		
Overlap Set		
Veh. Det. Set		
Veh. Det. Diag Set		
Ped. Det. Diag Set		
Priority Set		
Ped Ovlp Set		
Det. Reset		

5.2 Pattern Parameters		2
Cycle Time		100
Offset Time		89
Split		2
Sequence		1
Correction Mode		
Maximum Mode		
Force Mode		Fixed
Perm Strategy		
Omit Strategy		
Early Return		
Texas Diamond		
Max2 Phases		
Phase Timing Set		
Phase Option Set		
Overlap Set		
Veh. Det. Set		
Veh. Det. Diag Set		
Ped. Det. Diag Set		
Priority Set		
Ped Ovlp Set		
Det. Reset		

5.2 Pattern Parameters		3
Cycle Time		120
Offset Time		89
Split		3
Sequence		1
Correction Mode		
Maximum Mode		
Force Mode		Fixed
Perm Strategy		
Omit Strategy		
Early Return		
Texas Diamond		
Max2 Phases		
Phase Timing Set		
Phase Option Set		
Overlap Set		
Veh. Det. Set		
Veh. Det. Diag Set		
Ped. Det. Diag Set		
Priority Set		
Ped Ovlp Set		
Det. Reset		

5.2 Pattern Parameters		4
Cycle Time		
Offset Time		
Split		
Sequence		
Correction Mode		
Maximum Mode		
Force Mode		
Perm Strategy		
Omit Strategy		
Early Return		
Texas Diamond		
Max2 Phases		
Phase Timing Set		
Phase Option Set		
Overlap Set		
Veh. Det. Set		
Veh. Det. Diag Set		
Ped. Det. Diag Set		
Priority Set		
Ped Ovlp Set		
Det. Reset		



Omni eX v1.4 - Day Plans

Agency: _____
Location: Meridian Road & Eastonville Road
System ID: _____

DATE PREPARED: _____
DATE IMPLEMENTED: _____
By: _____
By: _____

6.5 DayPlan 1								
Event#	1	2	3	4	5	6	7	8
Hour	6	9	13	19				
Minute	0	0	30	0				
Action	1	2	3	20				

6.5 DayPlan 1								
Event#	9	10	11	12	13	14	15	16
Hour								
Minute								
Action								

6.5 DayPlan 1								
Event#	17	18	19	20	21	22	23	24
Hour								
Minute								
Action								

6.5 DayPlan 1								
Event#	25	26	27	28	29	30	31	32
Hour								
Minute								
Action								

6.5 DayPlan 2								
Event#	1	2	3	4	5	6	7	8
Hour	10	19						
Minute	0	0						
Action	2	20						

6.5 DayPlan 2								
Event#	9	10	11	12	13	14	15	16
Hour								
Minute								
Action								

6.5 DayPlan 2								
Event#	17	18	19	20	21	22	23	24
Hour								
Minute								
Action								

6.5 DayPlan 2								
Event#	25	26	27	28	29	30	31	32
Hour								
Minute								
Action								



Agency: _____
Location: _____
System ID: _____

Date Prepared: _____ By: _____
Date Implemented: _____ By: _____

6.6 Action Parameters 1	
Pattern	
Auxiliary Function	
Special Function	
Special Function	
Detector VOS Log	
Speed Trap Log	
Cycle MOE Log	
Oetector Reset	

6.6 Action Parameters 2	
Pattern	
Auxiliary Function	
Special Function	
Special Function	
Detector VOS Log	
Speed Trap Log	
Cycle MOE Log	
Oetector Reset	

6.6 Action Parameters 3	
Pattern	
Auxiliary Function	
Special Function	
Special Function	
Oetector VOS Log	
Speed Trap Log	
Cycle MOE Log	
Detector Reset	

6.6 Action Parameters 4	
Pattern	
Auxiliary Function	
Special Function	
Special Function	
Detector VOS Log	
Speed Trap Log	
Cycle MOE Log	
Oetector Reset	

6.6 Action Parameters 5	
Pattern	
Auxiliary Function	
Special Function	
Special Function	
Oetector VOS Log	
Speed Trap Log	
Cycle MOE Log	
Detector Reset	

6.6 Action Parameters 6	
Pattern	
Auxiliary Function	
Special Function	
Special Function	
Oetector VOS Log	
Speed Trap Log	
Cycle MOE Log	
Detector Reset	

6.6 Action Parameters 7	
Pattern	
Auxiliary Function	
Special Function	
Special Function	
Detector VOS Log	
Speed Trap Log	
Cycle MOE Log	
Detector Reset	

6.6 Action Parameters 8	
Pattern	
Auxiliary Function	
Special Function	
Special Function	
Detector VOS Log	
Speed Trap Log	
Cycle MOE Log	
Oetector Reset	

6.6 Action Parameters 9	
Pattern	
Auxiliary Function	
Special Function	
Special Function	
Oetector VOS Log	
Speed Trap Log	
Cycle MOE Log	
Detector Reset	

6.6 Action Parameters 10	
Pattern	
Auxiliary Function	
Special Function	
Special Function	
Oetector VOS Log	
Speed Trap Log	
Cycle MOE Log	
Oetector Reset	

6.6 Action Parameters 11	
Pattern	
Auxiliary Function	
Special Function	
Special Function	
Detector VOS Log	
Speed Trap Log	
Cycle MOE Log	
Oetector Reset	

6.6 Action Parameters 12	
Pattern	
Auxiliary Function	
Special Function	
Special Function	
Detector VOS Log	
Speed Trap Log	
Cycle MOE Log	
Oetector Reset	

6.6 Action Parameters 13	
Pattern	
Auxiliary Function	
Special Function	
Special Function	
Detector VOS Log	
Speed Trap Log	
Cycle MOE Log	
Oetector Reset	

6.6 Action Parameters 14	
Pattern	
Auxiliary Function	
Special Function	
Special Function	
Oetector VOS Log	
Speed Trap Log	
Cycle MOE Log	
Oetector Reset	

6.6 Action Parameters 15	
Pattern	
Auxiliary Function	
Special Function	
Special Function	
Oetector VOS Log	
Speed Trap Log	
Cycle MOE Log	
Detector Reset	

Omni eX v1.4 - Transit Priority



Agency: _____
Location: _____
System ID: _____

Date Prepared: _____ By: _____
Date Implemented: _____ By: _____

8.1 TSP Global Options		Strategy 1 Set 1	
Enable		Strategy 1 Set 1	
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
8.2 TSP Strategy Options		Strategy 2 Set 1	
Enable		Strategy 2 Set 1	
Override + 1			
Service Phases			
Call Phases			
Omit Phases			
Omit Peds			
Queue lump Ph			
ETA			
Input Function			
Input Index			
Input Type			
Request Mode			
Checkout Mode			
Checkout Time			
Max Presence			
Max Presence Clr			
Min ON Time			
Min OFF Time			
Delay Time			
Extend Time			
Headway Time			
Preempt Lockout			
8.2 TSP Strategy Options		Strategy 3 Set 1	
Enable		Strategy 3 Set 1	
Override + 1			
Service Phases			
Call Phases			
Omit Phases			
Omit Peds			
Queue lump Ph			
ETA			
Input Function			
Input Index			
Input Type			
Request Mode			
Checkout Mode			
Checkout Time			
Max Presence			
Max Presence Clr			
Min ON Time			
Min OFF Time			
Delay Time			
Extend Time			
Headway Time			
Preempt Lockout			
8.2 TSP Strategy Options		Strategy 4 Set 1	
Enable		Strategy 4 Set 1	
Override + 1			
Service Phases			
Call Phases			
Omit Phases			
Omit Peds			
Queue lump Ph			
ETA			
Input Function			
Input Index			
Input Type			
Request Mode			
Checkout Mode			
Checkout Time			
Max Presence			
Max Presence Clr			
Min ON Time			
Min OFF Time			
Delay Time			
Extend Time			
Headway Time			
Preempt Lockout			
8.2 TSP Strategy Options		Strategy 5 Set 1	
Enable		Strategy 5 Set 1	
Override + 1			
Service Phases			
Call Phases			
Omit Phases			
Omit Peds			
Queue lump Ph			
ETA			
Input Function			
Input Index			
Input Type			
Request Mode			
Checkout Mode			
Checkout Time			
Max Presence			
Max Presence Clr			
Min ON Time			
Min OFF Time			
Delay Time			
Extend Time			
Headway Time			
Preempt Lockout			
8.2 TSP Strategy Options		Strategy 6 Set 1	
Enable		Strategy 6 Set 1	
Override + 1			
Service Phases			
Call Phases			
Omit Phases			
Omit Peds			
Queue lump Ph			
ETA			
Input Function			
Input Index			
Input Type			
Request Mode			
Checkout Mode			
Checkout Time			
Max Presence			
Max Presence Clr			
Min ON Time			
Min OFF Time			
Delay Time			
Extend Time			
Headway Time			
Preempt Lockout			
8.2 TSP Strategy Options		Strategy 7 Set 1	
Enable		Strategy 7 Set 1	
Override + 1			
Service Phases			
Call Phases			
Omit Phases			
Omit Peds			
Queue lump Ph			
ETA			
Input Function			
Input Index			
Input Type			
Request Mode			
Checkout Mode			
Checkout Time			
Max Presence			
Max Presence Clr			
Min ON Time			
Min OFF Time			
Delay Time			
Extend Time			
Headway Time			
Preempt Lockout			



Omni eX v1.4 - Log Configuration

Agency: _____
 Location: _____
 System ID: _____

Date Prepared: _____ By: _____
 Date Implemented: _____ By: _____

9.3-4 Log Configuration	
Volume Occupancy Period	
VOS Log Combined Periods	
Speed Trap Log Period	
Display Metric	
Speed Trap Log Mode	
VOS Log Mode	
Cycle MOE Log Mode	
Power On/Off	
Low Battery	
Cycle Fault	
Coord Fault	
Coord Fail	
Cycle Fail	
MMU Flash	
Local Flash	
Local Free	
Preempt Status Change	
Response Fault	
Alarm Status Change	
Door Status Change	
Pattern Change	
Detector Status Change	
Comm Status Change	
Command Change	
Data Change Keyboard	
Controller Download	
Access Code	
Priority	

6.2 Time Zone
Global DST
Standard Time Zone (+/- hr)

A.3 Unit Comms
Unit Backup Time

1.7 Port 1																				
Device	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	
Device Present																				
Frame40 Enable																				

1.5.5 Aux Switch
Function
Index

A.5-6 Time Sync
NTP Server Address
NTP Start Hour
NTP Start Minute
NTP Interval Hour
NTP Interval Minute
GPS Start Hour
GPS Start Minute
GPS Interval Hour
GPS Interval Minute
Enable NTP Svr



Agency: _____
Location: _____
System ID: _____

Date Prepared: _____ By: _____
Date Implemented: _____ By: _____

A.1 Serial Comms						
Port	1	2	3	4	5	8
Protocol						
Speed						
Parity						
Flow Control						
Address						
Group Address						
Data Bits						
Stop Bits						
CTS Delay						
RTS Extend						

A.2 Ethernet Comms		
Port	1	2
IP Address		
Net Mask		
Gateway		
NTCIP Port		
NTCIP Mode		
AB3418 Port		
AB3418 Mode		
AB3418 Address		
AB3418 Group Address		

Omni eX v1.4 - Unit & Phase Configuration



Agency: _____ **DATE PREPARED:** 5/4/2022 **By:** DLM
Location: Meridian Road & Woodmen Road **DATE IMPLEMENTED:** _____
System ID: _____

1.2 Unit Setup	
Auto PED Clr	
Red Revert	
Min Yellow	
TX Diamond	
Diamond Type	

1.4 Channel Setup (1-16)																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Type																
Source																
Alt 1/2 Hz																
Fish Red																
Fish Yel																

B.3 System Information	
System Id	
Name	
Location	

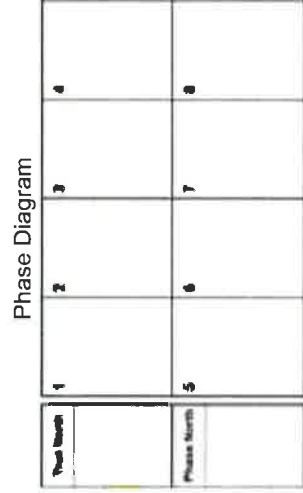
5.1 Coordination Constants	
Correction Mode	Shortway
Max Cycles Trans	3
Coord Max Mode	Max Inhibit
Coord Force Mode	Fixed
Perm Strategy	Maximum
Omit Strategy	Minimum
Sync Point	Begin Yellow
No Early Return	Disable
Sync Ref Time	0
Operational Mode	

1.3 Startup	
Start-Up Phases	
Next Phase	
Flash	
All Red	
Start Veh Call	
Start Ped Call	

1.4 Channel Setup (17-32)																
	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
Type																
Source																
Alt 1/2 Hz																
Fish Red																
Fish Yel																

2.4 Phase Concurrency																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Phase 1																
Phase 2																
Phase 3																
Phase 4																
Phase 5																
Phase 6																
Phase 7																
Phase 8																
Phase 9																
Phase 10																
Phase 11																
Phase 12																
Phase 13																
Phase 14																
Phase 15																
Phase 16																

2.4 Phase Enable and Rings																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Enabled	x	x	x	x	x	x	x	x								
Ring1	x	x	x	x												
Ring2					x	x	x	x								
Ring3																
Ring4																



Agency: _____ Date Prepared: _____ By: _____
 Location: _____ Date Implemented: _____ By: _____
 System ID: _____

1.5.1.1 Nema ABCD Input Mapping											
Pins	Function	IDX	Pins	Function	IDX	Pins	Function	IDX	Pins	Function	IDX
A-f	Vehicle Detector	1	B-m	Phase Ped Omit	7	A-k	Man Control Enable	1	D-V	Unused Input	1
A-K	Vehicle Detector	2	B-n	Phase Ped Omit	8	A-q	Mode Select Bit	1	D-W	Unused Input	1
B-N	Vehicle Detector	3	B-U	Phase Omit	1	A-y	Mode Select Bit	2	D-X	Unused Input	1
B-L	Vehicle Detector	4	B-S	Phase Omit	2	A-HH	Mode Select Bit	3	D-Y	Free (no Coord)	1
C-P	Vehicle Detector	5	B-R	Phase Omit	3	A-n	Test	1	D-Z	Unused Input	1
C-S	Vehicle Detector	6	B-g	Phase Omit	4	A-AA	Test	2	D-a	Unused Input	1
C-V	Vehicle Detector	7	C-n	Phase Omit	5	C-b	Test	3	D-b	Alarm	1
C-t	Vehicle Detector	8	C-q	Phase Omit	6	A-BB	Walk Rest Modifier	1	D-c	Alarm	2
A-g	Pedestrian Detector	1	C-r	Phase Omit	7	B-B	Unused Input	1	D-d	Alarm	3
A-L	Pedestrian Detector	2	C-s	Phase Omit	8	B-W	Unused Input	1	D-e	Alarm	4
B-P	Pedestrian Detector	3	A-i	Force Off Ring	1	B-X	Unused Input	1	D-f	Alarm	5
B-M	Pedestrian Detector	4	A-N	Stop Time Ring	1	B-v	Unused Input	1	D-g	Local Flash Sense	1
C-R	Pedestrian Detector	5	A-P	Inhibit Max Ring	1	D-A	Vehicle Detector	9	D-h	Mmu Flash	1
C-T	Pedestrian Detector	6	A-x	Red Rest Ring	1	D-B	Vehicle Detector	10	D-i	Door Ajar	1
C-U	Pedestrian Detector	7	A-FF	Ped Recycle Ring	1	D-C	Vehicle Detector	11	D-j	Special Func Input	1
C-W	Pedestrian Detector	8	A-GG	Max li Ring	1	D-D	Vehicle Detector	12	D-k	Special Func Input	2
A-h	Phase Hold	1	A-w	Omit Red Clear Ring	1	D-E	Vehicle Detector	13	D-m	Special Func Input	3
A-M	Phase Hold	2	A-m	Call To Na	1	D-F	Vehicle Detector	14	D-n	Special Func Input	4
B-i	Phase Hold	3	C-Y	Force Off Ring	2	D-G	Vehicle Detector	15	D-p	Special Func Input	5
B-h	Phase Hold	4	C-Z	Stop Time Ring	2	D-H	Vehicle Detector	16	D-q	Special Func Input	6
C-m	Phase Hold	5	C-a	Inhibit Max Ring	2	D-J	Vehicle Detector	17	D-r	Special Func Input	7
C-p	Phase Hold	6	C-u	Red Rest Ring	2	D-K	Vehicle Detector	18	D-s	Special Func Input	8
C-EE	Phase Hold	7	B-V	Ped Recycle Ring	2	D-L	Vehicle Detector	19	D-t	Preempt Detector	1
C-X	Phase Hold	8	B-z	Max li Ring	2	D-M	Vehicle Detector	20	D-u	Preempt Detector	2
A-EE	Phase Ped Omit	1	C-v	Omit Red Clear Ring	2	D-N	Vehicle Detector	21	D-v	Preempt Detector	3
A-v	Phase Ped Omit	2	A-z	Call To Na	2	D-P	Vehicle Detector	22	D-w	Preempt Detector	4
B-j	Phase Ped Omit	3	A-R	External Start	1	D-R	Vehicle Detector	23	D-x	Preempt Detector	5
B-x	Phase Ped Omit	4	A-S	Interval Advance	1	D-S	Vehicle Detector	24	D-y	Preempt Detector	6
B-T	Phase Ped Omit	5	A-T	Unused Input	1	D-T	Clock Update	1	D-KK	Unused Input	1
B-k	Phase Ped Omit	6	A-j	Min Recall	1	D-U	Unused Input	1	D-MM	Unused Input	1

1.5.1.2 Nema ABCD Output Mapping											
Pins	Function	IDX	Pins	Function	IDX	Pins	Function	IDX	Pins	Function	IDX
A-D	Channel Red	1	B-a	Unused Output	1	C-k	Phase Check	5	A-A	Fault Monitor	1
A-F	Channel Red	2	B-j	Channel Red	10	C-BB	Phase Check	6	A-C	Voltage Monitor	1
B-F	Channel Red	3	C-L	Unused Output	1	C-MM	Phase Check	7	B-FF	Channel Green	15
B-G	Channel Red	4	C-z	Channel Red	11	C-FF	Phase Check	8	B-HH	Channel Yellow	15
C-H	Channel Red	5	C-y	Unused Output	1	B-A	Phase Next	1	B-DD	Channel Red	15
C-G	Channel Red	6	C-C	Channel Red	12	B-C	Phase Next	2	B-W	Channel Green	16
C-F	Channel Red	7	A-a	Unused Output	1	B-t	Phase Next	3	B-EE	Channel Yellow	16
C-D	Channel Red	8	A-H	Channel Yellow	9	B-f	Phase Next	4	B-u	Channel Red	16
A-Z	Channel Yellow	1	B-Z	Unused Output	1	C-M	Phase Next	5	A-X	Flash Logic Output	1
A-b	Channel Yellow	2	B-H	Channel Yellow	10	C-DD	Phase Next	6	D-LL	Detector Reset	1
B-E	Channel Yellow	3	C-K	Unused Output	1	C-PP	Phase Next	7	A-CC	Status A	1
B-c	Channel Yellow	4	C-AA	Channel Yellow	11	C-HH	Phase Next	8	A-r	Status B	1
C-j	Channel Yellow	5	C-KK	Unused Output	1	A-DD	Phase On	1	A-Y	Status C	1
C-h	Channel Yellow	6	C-w	Channel Yellow	12	A-e	Phase On	2	C-A	Status A	2
C-E	Channel Yellow	7	A-t	Unused Output	1	B-s	Phase On	3	C-B	Status B	2
C-e	Channel Yellow	8	A-j	Channel Green	9	B-e	Phase On	4	C-c	Status C	2
A-s	Channel Green	1	B-Y	Unused Output	1	C-N	Phase On	5	D-z	Alarm Output	1
A-c	Channel Green	2	B-d	Channel Green	10	C-CC	Phase On	6	D-AA	Alarm Output	2
B-D	Channel Green	3	C-j	Unused Output	1	C-NN	Phase On	7	D-BB	Special Func Output	1
B-b	Channel Green	4	C-LL	Channel Green	11	C-GG	Phase On	8	D-CC	Special Func Output	2
C-i	Channel Green	5	C-jj	Unused Output	1	B-AA	Channel Green	13	D-DD	Special Func Output	3
C-g	Channel Green	6	C-d	Channel Green	12	B-p	Channel Yellow	13	D-EE	Special Func Output	4
C-f	Channel Green	7	A-u	Phase Check	1	B-q	Channel Red	13	D-FF	Special Func Output	5
C-x	Channel Green	8	A-d	Phase Check	2	B-GG	Channel Green	14	D-GG	Special Func Output	6
A-E	Unused Output	1	B-r	Phase Check	3	B-BB	Channel Yellow	14	D-HH	Special Func Output	7
A-G	Channel Red	9	B-K	Phase Check	4	B-CC	Channel Red	14	D-JJ	Special Func Output	8



Omni eX v1.4 - 2070 FIO I/O Mapping

Agency: _____ Date Prepared: _____ By: _____
Location: _____ Date Implemented: _____ By: _____
System ID: _____

1.5.3.1 2070 FIO Input Mapping					
Pins	Function	Idx	Pins	Function	Idx
C1-39	Vehicle Detector	2	C1-67	Ped Detector	1
C1-40	Vehicle Detector	16	C1-68	Ped Detector	3
C1-41	Vehicle Detector	8	C1-69	Ped Detector	2
C1-42	Vehicle Detector	22	C1-70	Ped Detector	4
C1-43	Vehicle Detector	3	C1-71	Preempt	3
C1-44	Vehicle Detector	17	C1-72	Preempt	4
C1-45	Vehicle Detector	9	C1-73	Preempt	5
C1-46	Vehicle Detector	23	C1-74	Preempt	6
C1-47	Vehicle Detector	6	C1-75	Unused Input	
C1-48	Vehicle Detector	20	C1-76	Vehicle Detector	5
C1-49	Vehicle Detector	12	C1-77	Vehicle Detector	19
C1-50	Vehicle Detector	26	C1-78	Vehicle Detector	11
C1-51	Preempt	1	C1-79	Vehicle Detector	25
C1-52	Preempt	2	C1-80	Interval Advance	
C1-53	Manual Ctrl		C1-81	CMU Flash	
C1-54	Unused Input		C1-82	Stop Time	
C1-55	Vehicle Detector	15	C11-15	Unused Input	
C1-56	Vehicle Detector	1	C11-16	Unused Input	
C1-57	Vehicle Detector	21	C11-17	Unused Input	
C1-58	Vehicle Detector	7	C11-18	Unused Input	
C1-59	Vehicle Detector	27	C11-19	Unused Input	
C1-60	Vehicle Detector	13	C11-20	Unused Input	
C1-61	Vehicle Detector	28	C11-21	Unused Input	
C1-62	Vehicle Detector	14	C11-22	Unused Input	
C11-10	Unused Input		C11-23	Unused Input	
C11-11	Unused Input		C11-24	Unused Input	
C11-12	Unused Input		C11-25	Unused Input	
C11-13	Unused Input		C11-26	Unused Input	
C1-63	Vehicle Detector	4	C11-27	Unused Input	
C1-64	Vehicle Detector	18	C11-28	Unused Input	
C1-65	Vehicle Detector	10	C11-29	Unused Input	
C1-66	Vehicle Detector	24	C11-30	Unused Input	

1.5.3.2 2070 FIO Output Mapping					
Pins	Function	Idx	Pins	Function	Idx
C1-02	Channel Red	6	C1-35	Unused Output	
C1-03	Channel Green	6	C1-36	Unused Output	
C1-04	Channel Red	5	C1-37	Unused Output	
C1-05	Channel Yellow	5	C1-38	Unused Output	
C1-06	Channel Green	5	C1-100	Unused Output	
C1-07	Channel Red	4	C1-101	Flash Status	
C1-08	Channel Yellow	4	C1-102	Detector Reset	
C1-09	Channel Green	4	C1-103	Watchdog	
C1-10	Channel Red	3	C1-83	Unused Output	
C1-11	Channel Green	3	C1-84	Unused Output	
C1-12	Channel Red	2	C1-85	Channel Red	16
C1-13	Channel Yellow	2	C1-86	Channel Yellow	16
C1-15	Channel Green	2	C1-87	Channel Green	16
C1-16	Channel Red	1	C1-88	Channel Red	15
C1-17	Channel Yellow	1	C1-89	Channel Yellow	15
C1-18	Channel Green	1	C1-90	Channel Green	15
C1-19	Channel Red	12	C1-91	Unused Output	
C1-20	Channel Green	12	C1-93	Unused Output	
C1-21	Channel Red	11	C1-94	Channel Red	14
C1-22	Channel Yellow	11	C1-95	Channel Yellow	14
C1-23	Channel Green	11	C1-96	Channel Green	14
C1-24	Channel Red	10	C1-97	Channel Red	13
C1-25	Channel Yellow	10	C1-98	Channel Yellow	13
C1-26	Channel Green	10	C1-99	Channel Green	13
C1-27	Channel Red	9	C11-1	Unused Output	
C1-28	Channel Green	9	C11-2	Unused Output	
C1-29	Channel Red	8	C11-3	Unused Output	
C1-30	Channel Yellow	8	C11-4	Unused Output	
C1-31	Channel Green	8	C11-5	Unused Output	
C1-32	Channel Red	7	C11-6	Unused Output	
C1-33	Channel Yellow	7	C11-7	Unused Output	
C1-34	Channel Green	7	C11-8	Unused Output	



Agency: _____ Date Prepared: _____ By: _____
 Location: _____ Date Implemented: _____ By: _____
 System ID: _____

2.3 Phase Sequence 1	
Ring 1	1,2,3,4
Ring 2	5,6,7,8
Ring 3	
Ring 4	

2.3 Phase Sequence 9	
Ring 1	
Ring 2	
Ring 3	
Ring 4	

Note: Phases 10 through 16 are entered as 0,A,B,C,D,E,F

2.3 Phase Sequence 2	
Ring 1	2,1,3,4
Ring 2	5,6,8,7
Ring 3	
Ring 4	

2.3 Phase Sequence 10	
Ring 1	
Ring 2	
Ring 3	
Ring 4	

2.3 Phase Sequence 3	
Ring 1	
Ring 2	
Ring 3	
Ring 4	

2.3 Phase Sequence 11	
Ring 1	
Ring 2	
Ring 3	
Ring 4	

2.3 Phase Sequence 4	
Ring 1	
Ring 2	
Ring 3	
Ring 4	

2.3 Phase Sequence 12	
Ring 1	
Ring 2	
Ring 3	
Ring 4	

2.3 Phase Sequence 5	
Ring 1	
Ring 2	
Ring 3	
Ring 4	

2.3 Phase Sequence 13	
Ring 1	
Ring 2	
Ring 3	
Ring 4	

2.3 Phase Sequence 6	
Ring 1	
Ring 2	
Ring 3	
Ring 4	

2.3 Phase Sequence 14	
Ring 1	
Ring 2	
Ring 3	
Ring 4	

2.3 Phase Sequence 7	
Ring 1	
Ring 2	
Ring 3	
Ring 4	

2.3 Phase Sequence 15	
Ring 1	
Ring 2	
Ring 3	
Ring 4	

2.3 Phase Sequence 8	
Ring 1	
Ring 2	
Ring 3	
Ring 4	

2.3 Phase Sequence 16	
Ring 1	
Ring 2	
Ring 3	
Ring 4	

Detector Lock	
No Min Yellow	

Detector Lock	
No Min Yellow	



Omni eX v1.4 - Vehicle Overlaps

Agency: _____
 Location: _____
 System ID: _____

Date Prepared: _____ By: _____
 Date Implemented: _____ By: _____

3.1 Veh Overlap 1	Set 1
Type	
Included Phases	
Modifier Phases	
Excluded Phases	
Excluded Peds	
Trail Grn	
Trailing Yel	
Trailing Red	
Start Delay	
No Trail Grn Phs	
Call Phases	
Actuated Only	
Detector Lock	
No Min Yellow	

3.1 Veh. Overlap 2	Set 1
Type	
Included Phases	
Modifier Phases	
Excluded Phases	
Excluded Peds	
Trail Grn	
Trailing Yel	
Trailing Red	
Start Delay	
No Trail Grn Phs	
Call Phases	
Actuated Only	
Detector Lock	
No Min Yellow	

3.1 Veh Overlap 3	Set 1
Type	
Included Phases	
Modifier Phases	
Excluded Phases	
Excluded Peds	
Trail Grn	
Trailing Yel	
Trailing Red	
Start Delay	
No Trail Grn Phs	
Call Phases	
Actuated Only	
Detector Lock	
No Min Yellow	

3.1 Veh Overlap 4	Set 1
Type	
Included Phases	
Modifier Phases	
Excluded Phases	
Excluded Peds	
Trail Grn	
Trailing Yel	
Trailing Red	
Start Delay	
No Trail Grn Phs	
Call Phases	
Actuated Only	
Detector Lock	
No Min Yellow	

3.1 Veh Overlap 5	Set 1
Type	
Included Phases	
Modifier Phases	
Excluded Phases	
Excluded Peds	
Trail Grn	
Trailing Yel	
Trailing Red	
Start Delay	
No Trail Grn Phs	
Call Phases	
Actuated Only	

3.1 Veh Overlap 6	Set 1
Type	
Included Phases	
Modifier Phases	
Excluded Phases	
Excluded Peds	
Trail Grn	
Trailing Yel	
Trailing Red	
Start Delay	
No Trail Grn Phs	
Call Phases	
Actuated Only	



Omni eX v1.4 - Ped Overlaps

Agency: _____
Location: _____
System ID: _____

Date Prepared: _____ By: _____
Date Implemented: _____ By: _____

3.2 Ped Overlap 1	Set 1	3.2 Ped Overlap 2	Set 1
Included Phases		Included Phases	
Excluded Phases		Excluded Phases	
Intervals		Intervals	
Call Phases		Call Phases	
Actuated Only		Actuated Only	
3.2 Ped Overlap 3	Set 1	3.2 Ped Overlap 4	Set 1
Included Phases		Included Phases	
Excluded Phases		Excluded Phases	
Intervals		Intervals	
Call Phases		Call Phases	
Actuated Only		Actuated Only	
3.2 Ped Overlap 5	Set 1	3.2 Ped Overlap 6	Set 1
Included Phases		Included Phases	
Excluded Phases		Excluded Phases	
Intervals		Intervals	
Call Phases		Call Phases	
Actuated Only		Actuated Only	
3.2 Ped Overlap 7	Set 1	3.2 Ped Overlap 8	Set 1
Included Phases		Included Phases	
Excluded Phases		Excluded Phases	
Intervals		Intervals	
Call Phases		Call Phases	
Actuated Only		Actuated Only	
3.2 Ped Overlap 9	Set 1	3.2 Ped Overlap 10	Set 1
Included Phases		Included Phases	
Excluded Phases		Excluded Phases	
Intervals		Intervals	
Call Phases		Call Phases	
Actuated Only		Actuated Only	
3.2 Ped Overlap 11	Set 1	3.2 Ped Overlap 12	Set 1
Included Phases		Included Phases	
Excluded Phases		Excluded Phases	
Intervals		Intervals	
Call Phases		Call Phases	
Actuated Only		Actuated Only	
3.2 Ped Overlap 13	Set 1	3.2 Ped Overlap 14	Set 1
Included Phases		Included Phases	
Excluded Phases		Excluded Phases	
Intervals		Intervals	
Call Phases		Call Phases	
Actuated Only		Actuated Only	
3.2 Ped Overlap 15	Set 1	3.2 Ped Overlap 16	Set 1
Included Phases		Included Phases	
Excluded Phases		Excluded Phases	
Intervals		Intervals	
Call Phases		Call Phases	
Actuated Only		Actuated Only	



Omni eX v1.4 - Pedestrian Detector Diagnostics

Agency: _____
 Location: _____
 System ID: _____

DATE PREPARED: _____ By: _____
 DATE IMPLEMENTED: _____ By: _____

4.4 Ped Detector Diag																
Set 1	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
No Activity																
Max. Presence																
Erratic Counts																

4.4 Ped Detector Diag																
Set 2	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
No Activity																
Max. Presence																
Erratic Counts																

4.4 Ped Detector Diag																
Set 3	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
No Activity																
Max. Presence																
Erratic Counts																

4.4 Ped Detector Diag																
Set 4	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
No Activity																
Max. Presence																
Erratic Counts																

4.5 Extra VEH Detector Calls		
DET	Call Phases	Call VEH Overlap
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		
21		
22		
23		
24		
25		
26		
27		
28		
29		
30		
31		
32		

4.6 Extra PED Detector Calls		
DET	Call Phases	Call PED Overlap
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		



Omni eX v1.4 - Patterns

Agency: _____

Location: _____

System ID: _____

Meridian Road & Woodmen Road

DATE PREPARED: _____

DATE IMPLEMENTED: _____

By: _____

By: _____

5.2 Pattern Parameters		1
Cycle Time		120
Offset Time		30
Split		1
Sequence		2
Correction Mode		
Maximum Mode		
Force Mode		Fixed
Perm Strategy		
Omit Strategy		
Early Return		
Texas Diamond		
Max2 Phases		
Phase Timing Set		
Phase Option Set		
Overlap Set		
Veh. Det. Set		
Veh. Det. Diag Set		
Ped. Det. Diag Set		
Priority Set		
Ped Ovlp Set		
Det. Reset		

5.2 Pattern Parameters		2
Cycle Time		100
Offset Time		52
Split		2
Sequence		1
Correction Mode		
Maximum Mode		
Force Mode		Fixed
Perm Strategy		
Omit Strategy		
Early Return		
Texas Diamond		
Max2 Phases		
Phase Timing Set		
Phase Option Set		
Overlap Set		
Veh. Det. Set		
Veh. Det. Diag Set		
Ped. Det. Diag Set		
Priority Set		
Ped Ovlp Set		
Det. Reset		

5.2 Pattern Parameters		3
Cycle Time		120
Offset Time		37
Split		3
Sequence		1
Correction Mode		
Maximum Mode		
Force Mode		Fixed
Perm Strategy		
Omit Strategy		
Early Return		
Texas Diamond		
Max2 Phases		
Phase Timing Set		
Phase Option Set		
Overlap Set		
Veh. Det. Set		
Veh. Det. Diag Set		
Ped. Det. Diag Set		
Priority Set		
Ped Ovlp Set		
Det. Reset		

5.2 Pattern Parameters		4
Cycle Time		
Offset Time		
Split		
Sequence		
Correction Mode		
Maximum Mode		
Force Mode		
Perm Strategy		
Omit Strategy		
Early Return		
Texas Diamond		
Max2 Phases		
Phase Timing Set		
Phase Option Set		
Overlap Set		
Veh. Det. Set		
Veh. Det. Diag Set		
Ped. Det. Diag Set		
Priority Set		
Ped Ovlp Set		
Det. Reset		



Agency: _____
Location: Meridian Road & Eastonville Road
System ID: _____

DATE PREPARED: _____
DATE IMPLEMENTED: _____

By: _____
By: _____

6.5 DayPlan 1								
Event#	1	2	3	4	5	6	7	8
Hour	6	9	13	19				
Minute	0	0	30	0				
Action	1	2	3	20				

6.5 DayPlan 1								
Event#	9	10	11	12	13	14	15	16
Hour								
Minute								
Action								

6.5 DayPlan 1								
Event#	17	18	19	20	21	22	23	24
Hour								
Minute								
Action								

6.5 DayPlan 1								
Event#	25	26	27	28	29	30	31	32
Hour								
Minute								
Action								

6.5 DayPlan 2								
Event#	1	2	3	4	5	6	7	8
Hour	10	19						
Minute	0	0						
Action	2	20						

6.5 DayPlan 2								
Event#	9	10	11	12	13	14	15	16
Hour								
Minute								
Action								

6.5 DayPlan 2								
Event#	17	18	19	20	21	22	23	24
Hour								
Minute								
Action								

6.5 DayPlan 2								
Event#	25	26	27	28	29	30	31	32
Hour								
Minute								
Action								



Agency: _____
Location: _____
System ID: _____

Date Prepared: _____ By: _____
Date Implemented: _____ By: _____

6.6 Action Parameters 1	
Pattern	
Auxiliary Function	
Special Function	
Special Function	
Detector VOS Log	
Speed Trap Log	
Cycle MOE Log	
Detector Reset	

6.6 Action Parameters 2	
Pattern	
Auxiliary Function	
Special Function	
Special Function	
Detector VOS Log	
Speed Trap Log	
Cycle MOE Log	
Detector Reset	

6.6 Action Parameters 3	
Pattern	
Auxiliary Function	
Special Function	
Special Function	
Detector VOS Log	
Speed Trap Log	
Cycle MOE Log	
Detector Reset	

6.6 Action Parameters 4	
Pattern	
Auxiliary Function	
Special Function	
Special Function	
Detector VOS Log	
Speed Trap Log	
Cycle MOE Log	
Detector Reset	

6.6 Action Parameters 5	
Pattern	
Auxiliary Function	
Special Function	
Special Function	
Detector VOS Log	
Speed Trap Log	
Cycle MOE Log	
Detector Reset	

6.6 Action Parameters 6	
Pattern	
Auxiliary Function	
Special Function	
Special Function	
Detector VOS Log	
Speed Trap Log	
Cycle MOE Log	
Detector Reset	

6.6 Action Parameters 7	
Pattern	
Auxiliary Function	
Special Function	
Special Function	
Detector VOS Log	
Speed Trap Log	
Cycle MOE Log	
Detector Reset	

6.6 Action Parameters 8	
Pattern	
Auxiliary Function	
Special Function	
Special Function	
Detector VOS Log	
Speed Trap Log	
Cycle MOE Log	
Detector Reset	

6.6 Action Parameters 9	
Pattern	
Auxiliary Function	
Special Function	
Special Function	
Detector VOS Log	
Speed Trap Log	
Cycle MOE Log	
Detector Reset	

6.6 Action Parameters 10	
Pattern	
Auxiliary Function	
Special Function	
Special Function	
Detector VOS Log	
Speed Trap Log	
Cycle MOE Log	
Detector Reset	

6.6 Action Parameters 11	
Pattern	
Auxiliary Function	
Special Function	
Special Function	
Detector VOS Log	
Speed Trap Log	
Cycle MOE Log	
Detector Reset	

6.6 Action Parameters 12	
Pattern	
Auxiliary Function	
Special Function	
Special Function	
Detector VOS Log	
Speed Trap Log	
Cycle MOE Log	
Detector Reset	

6.6 Action Parameters 13	
Pattern	
Auxiliary Function	
Special Function	
Special Function	
Detector VOS Log	
Speed Trap Log	
Cycle MOE Log	
Detector Reset	

6.6 Action Parameters 14	
Pattern	
Auxiliary Function	
Special Function	
Special Function	
Detector VOS Log	
Speed Trap Log	
Cycle MOE Log	
Detector Reset	

6.6 Action Parameters 15	
Pattern	
Auxiliary Function	
Special Function	
Special Function	
Detector VOS Log	
Speed Trap Log	
Cycle MOE Log	
Detector Reset	



Omni eX v1.4 - Log Configuration

Agency: _____
 Location: _____
 System ID: _____

Date Prepared: _____ By: _____
 Date Implemented: _____ By: _____

9.3-4 Log Configuration	
Volume Occupancy Period	
VOS Log Combined Periods	
Speed Trap Log Period	
Display Metric	
Speed Trap Log Mode	
VOS Log Mode	
Cycle MOE Log Mode	
Power On/Off	
Low Battery	
Cycle Fault	
Coord Fault	
Coord Fail	
Cycle Fail	
MMU Flash	
Local Flash	
Local Free	
Preempt Status Change	
Response Fault	
Alarm Status Change	
Door Status Change	
Pattern Change	
Detector Status Change	
Comm Status Change	
Command Change	
Data Change Keyboard	
Controller Download	
Access Code	
Priority	

6.2 Time Zone	
Global DST	
Standard Time Zone (+/- hr)	

A.3 Unit Comms	
Unit Backup Time	

1.7 Port 1																			
Device	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Device Present																			
Frame40 Enable																			

1.5.5 Aux Switch	
Function	
Index	

A.5-6 Time Sync	
NTP Server Address	
NTP Start Hour	
NTP Start Minute	
NTP Interval Hour	
NTP Interval Minute	
GPS Start Hour	
GPS Start Minute	
GPS Interval Hour	
GPS Interval Minute	
Enable NTP Svr	



Agency: _____
Location: _____
System ID: _____

Date Prepared: _____ By: _____
Date Implemented: _____ By: _____

A.1 Serial Comms						
Port	1	2	3	4	5	8
Protocol						
Speed						
Parity						
Flow Control						
Address						
Group Address						
Data Bits						
Stop Bits						
CTS Delay						
RTS Extend						

A.2 Ethernet Comms		
Port	1	2
IP Address		
Net Mask		
Gateway		
NTCIP Port		
NTCIP Mode		
AB3418 Port		
AB3418 Mode		
AB3418 Address		
AB3418 Group Address		

APPENDIX B

Level of Service Definitions

The following information can be found in the Highway Capacity Manual, Transportation Research Board, 2016: Chapter 19 – Signalized Intersections and Chapter 20 – Two-Way Stop Controlled Intersections.

Automobile Level of Service (LOS) for Signalized Intersections

Levels of service are defined to represent reasonable ranges in control delay.

LOS A

Describes operations with a control delay of 10 s/veh or less and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is low and either progression is exceptionally favorable or the cycle length is very short. If it is due to favorable progression, most vehicles arrive during the green indication and travel through the intersection without stopping.

LOS B

Describes operations with control delay between 10 and 20 s/veh and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is low and either progression is highly favorable or the cycle length is short. More vehicles stop than with LOS A.

LOS C

Describes operations with control delay between 20 and 35 s/veh and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when progression is favorable or the cycle length is moderate. Individual *cycle failures* (i.e., one or more queued vehicles are not able to depart as a result of insufficient capacity during the cycle) may begin to appear at this level. The number of vehicles stopping is significant, although many vehicles still pass through the intersection without stopping.

LOS D

Describes operations with control delay between 35 and 55 s/veh and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is high and either progression is ineffective or the cycle length is long. Many vehicles stop and individual cycle failures are noticeable.

LOS E

Describes operations with control delay between 55 and 80 s/veh and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is high, progression is unfavorable, and the cycle length is long. Individual cycle failures are frequent.

LOS F

Describes operations with control delay exceeding 80 s/veh or a volume-to-capacity ratio greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is very high, progression is very poor, and the cycle length is long. Most cycles fail to clear the queue.

Level of Service (LOS) for Unsignalized TWSC Intersections

Level of Service (v/c ≤ 1.0)	Average Control Delay (s/veh)
A	0 - 10
B	> 10 - 15
C	> 15 - 25
D	> 25 - 35
E	> 35 - 50
F	> 50

APPENDIX C

Capacity Worksheets

Timings
1: Meridian Road & E Woodmen Road

Existing Traffic Volumes
AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	241	246	117	59	378	64	127	216	17	59	512	551
Future Volume (vph)	241	246	117	59	378	64	127	216	17	59	512	551
Satd. Flow (prot)	3433	3539	1583	3433	3539	1583	3433	3539	1583	3433	3539	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	3539	1583	3433	3539	1583	3433	3539	1583	3433	3539	1583
Satd. Flow (RTOR)			245			182			245			599
Lane Group Flow (vph)	262	267	127	64	411	70	138	235	18	64	557	599
Turn Type	Prot	NA	Free	Prot	NA	Perm	Prot	NA	Free	Prot	NA	Free
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			Free			8			Free			Free
Detector Phase	7	4		3	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	15.0	15.0	5.0	15.0		5.0	15.0	
Minimum Split (s)	12.5	22.0		12.5	22.0	22.0	13.5	22.0		13.5	22.0	
Total Split (s)	27.0	36.0		24.0	33.0	33.0	18.0	42.0		18.0	42.0	
Total Split (%)	22.5%	30.0%		20.0%	27.5%	27.5%	15.0%	35.0%		15.0%	35.0%	
Yellow Time (s)	4.0	5.0		4.0	5.0	5.0	5.0	5.0		5.0	5.0	
All-Red Time (s)	3.5	2.0		3.5	2.0	2.0	3.5	2.0		3.5	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	7.5	7.0		7.5	7.0	7.0	8.5	7.0		8.5	7.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None	None	None	C-Max		None	C-Max	
Act Effct Green (s)	14.4	28.7	120.0	7.6	19.3	19.3	10.2	51.6	120.0	7.6	46.2	120.0
Actuated g/C Ratio	0.12	0.24	1.00	0.06	0.16	0.16	0.08	0.43	1.00	0.06	0.38	1.00
v/c Ratio	0.64	0.32	0.08	0.29	0.72	0.17	0.48	0.15	0.01	0.29	0.41	0.38
Control Delay	57.2	38.7	0.1	56.6	55.3	0.9	57.5	24.0	0.0	47.1	30.4	0.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	57.2	38.7	0.1	56.6	55.3	0.9	57.5	24.0	0.0	47.1	30.4	0.6
LOS	E	D	A	E	E	A	E	C	A	D	C	A
Approach Delay		38.6			48.5			34.7			16.6	
Approach LOS		D			D			C			B	
Queue Length 50th (ft)	101	92	0	24	161	0	53	60	0	24	192	0
Queue Length 95th (ft)	140	124	0	47	207	0	85	102	0	m43	278	0
Internal Link Dist (ft)		1105			882			544			1159	
Turn Bay Length (ft)	720			440			420			460		460
Base Capacity (vph)	557	899	1583	472	766	485	305	1521	1583	271	1361	1583
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.47	0.30	0.08	0.14	0.54	0.14	0.45	0.15	0.01	0.24	0.41	0.38

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 30 (25%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 70
 Control Type: Actuated-Coordinated

Timings
 1: Meridian Road & E Woodmen Road

Existing Traffic Volumes
 AM Peak Hour

Maximum v/c Ratio: 0.72

Intersection Signal Delay: 30.5

Intersection LOS: C









Intersection Capacity Utilization 62.7%

ICU Level of Service B

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Meridian Road & E Woodmen Road

 Ø1	 Ø2 (R)	 Ø3	 Ø4
18 s	42 s	24 s	36 s
 Ø5	 Ø6 (R)	 Ø7	 Ø8
18 s	42 s	27 s	33 s

HCM 6th TWSC
2: Meridian Road & Eastonville Road

Existing Traffic Volumes
AM Peak Hour

Intersection						
Int Delay, s/veh	1.3					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↘	↗	↑↑	↗	↘	↑↑
Traffic Vol, veh/h	96	36	481	40	110	1250
Future Vol, veh/h	96	36	481	40	110	1250
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	100	0	-	400	375	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	104	39	523	43	120	1359

Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	1443	262	0	0	566	0
Stage 1	523	-	-	-	-	-
Stage 2	920	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	*524	*902	-	-	1265	-
Stage 1	*827	-	-	-	-	-
Stage 2	*541	-	-	-	-	-
Platoon blocked, %	1	1	-	-	1	-
Mov Cap-1 Maneuver	*474	*902	-	-	1265	-
Mov Cap-2 Maneuver	*474	-	-	-	-	-
Stage 1	*827	-	-	-	-	-
Stage 2	*490	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13.2	0	0.7
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	474	902	1265
HCM Lane V/C Ratio	-	-	0.22	0.043	0.095
HCM Control Delay (s)	-	-	14.7	9.2	8.1
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.8	0.1	0.3

Notes
 ~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Timings
3: Meridian Road & Bent Grass Meadows Drive

Existing Traffic Volumes
AM Peak Hour



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↖↖	↗	↖	↑↑	↑↑	↗
Traffic Volume (vph)	62	86	65	380	1270	107
Future Volume (vph)	62	86	65	380	1270	107
Satd. Flow (prot)	3433	1583	1770	3539	3539	1583
Flt Permitted	0.950		0.139			
Satd. Flow (perm)	3433	1583	259	3539	3539	1583
Satd. Flow (RTOR)		93				116
Lane Group Flow (vph)	67	93	71	413	1380	116
Turn Type	Prot	Perm	pm+pt	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases		4	2			6
Detector Phase	4	4	5	2	6	6
Switch Phase						
Minimum Initial (s)	8.0	8.0	5.0	15.0	15.0	15.0
Minimum Split (s)	15.5	15.5	13.5	22.5	22.5	22.5
Total Split (s)	28.0	28.0	20.0	92.0	72.0	72.0
Total Split (%)	23.3%	23.3%	16.7%	76.7%	60.0%	60.0%
Yellow Time (s)	4.0	4.0	5.0	5.5	5.5	5.5
All-Red Time (s)	3.5	3.5	3.5	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.5	7.5	8.5	7.5	7.5	7.5
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Recall Mode	None	None	None	C-Max	C-Max	C-Max
Act Effct Green (s)	8.7	8.7	95.3	96.3	84.1	84.1
Actuated g/C Ratio	0.07	0.07	0.79	0.80	0.70	0.70
v/c Ratio	0.27	0.47	0.25	0.15	0.56	0.10
Control Delay	55.2	18.3	7.6	0.6	10.7	1.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	55.2	18.3	7.6	0.6	10.7	1.5
LOS	E	B	A	A	B	A
Approach Delay	33.8			1.6	10.0	
Approach LOS	C			A	A	
Queue Length 50th (ft)	25	0	3	4	264	0
Queue Length 95th (ft)	48	52	25	8	360	20
Internal Link Dist (ft)	323			1273	472	
Turn Bay Length (ft)	160		700			330
Base Capacity (vph)	586	347	350	2840	2480	1144
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.11	0.27	0.20	0.15	0.56	0.10

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 95 (79%), Refer
Natural Cycle: 65
Control Type: Actuated

Existing signal timings are based on the data received and included in Appendix A with offsets reassessed. Additional wording added within the report to clarify that these timings are used to the best extent possible for analysis purposes only and are subject to change pursuant to corridor timing analysis performed. It is expected that actual timings will need to be determined as area development continues via an updated corridor timing study.

January 2023

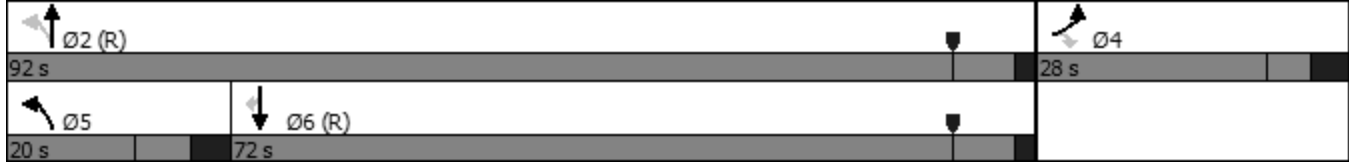
If signal timings are not per the provided timings, add a note on the Appendix title sheet stating that. We recommend using the provided timing that was done to optimize the corridor from Highway 24 to Woodmen Hills Drive

Timings
3: Meridian Road & Bent Grass Meadows Drive

Existing Traffic Volumes
 AM Peak Hour

Maximum v/c Ratio: 0.56	
Intersection Signal Delay: 9.9	Intersection LOS: A
Intersection Capacity Utilization 65.5%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 3: Meridian Road & Bent Grass Meadows Drive



HCM 6th TWSC
4: Meridian Road & Owl Place

Existing Traffic Volumes
AM Peak Hour

Intersection						
Int Delay, s/veh	0.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗	↘	↑↑	↑↑	↗
Traffic Vol, veh/h	0	6	5	512	1354	2
Future Vol, veh/h	0	6	5	512	1354	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	275	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	7	5	557	1472	2

Major/Minor	Minor2	Major1	Major2		
Conflicting Flow All	-	736	1474	0	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	6.94	4.14	-	-
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	-	3.32	2.22	-	-
Pot Cap-1 Maneuver	0	*523	*782	-	-
Stage 1	0	-	-	-	-
Stage 2	0	-	-	-	-
Platoon blocked, %		1	1	-	-
Mov Cap-1 Maneuver	-	*523	*782	-	-
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12	0.1	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	* 782	-	523	-	-
HCM Lane V/C Ratio	0.007	-	0.012	-	-
HCM Control Delay (s)	9.6	-	12	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Notes
 ~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

HCM 6th TWSC
5: Meridian Park Drive & Bent Grass Meadows Drive

Existing Traffic Volumes
AM Peak Hour

Intersection						
Int Delay, s/veh	5.3					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗	↘	↑	↘	
Traffic Vol, veh/h	56	9	111	61	8	95
Future Vol, veh/h	56	9	111	61	8	95
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	150	195	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	61	10	121	66	9	103

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	71	0	369 61
Stage 1	-	-	-	-	61 -
Stage 2	-	-	-	-	308 -
Critical Hdwy	-	-	4.12	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	-	-	2.218	-	3.518 3.318
Pot Cap-1 Maneuver	-	-	1529	-	631 1004
Stage 1	-	-	-	-	962 -
Stage 2	-	-	-	-	745 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1529	-	581 1004
Mov Cap-2 Maneuver	-	-	-	-	581 -
Stage 1	-	-	-	-	962 -
Stage 2	-	-	-	-	686 -

Approach	EB	WB	NB
HCM Control Delay, s	0	4.9	9.3
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	950	-	-	1529	-
HCM Lane V/C Ratio	0.118	-	-	0.079	-
HCM Control Delay (s)	9.3	-	-	7.6	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0.4	-	-	0.3	-

Timings
1: Meridian Road & E Woodmen Road

Existing Traffic Volumes
PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	671	509	160	112	330	136	164	664	106	100	384	375
Future Volume (vph)	671	509	160	112	330	136	164	664	106	100	384	375
Satd. Flow (prot)	3433	3539	1583	3433	3539	1583	3433	3539	1583	3433	3539	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	3539	1583	3433	3539	1583	3433	3539	1583	3433	3539	1583
Satd. Flow (RTOR)			314			250			314			408
Lane Group Flow (vph)	729	553	174	122	359	148	178	722	115	109	417	408
Turn Type	Prot	NA	Free	Prot	NA	Perm	Prot	NA	Free	Prot	NA	Free
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			Free			8			Free			Free
Detector Phase	7	4		3	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	15.0	15.0	5.0	15.0		5.0	15.0	
Minimum Split (s)	12.5	22.0		12.5	22.0	22.0	13.5	22.0		13.5	22.0	
Total Split (s)	38.0	37.0		26.0	25.0	25.0	18.0	39.0		18.0	39.0	
Total Split (%)	31.7%	30.8%		21.7%	20.8%	20.8%	15.0%	32.5%		15.0%	32.5%	
Yellow Time (s)	4.0	5.0		4.0	5.0	5.0	5.0	5.0		5.0	5.0	
All-Red Time (s)	3.5	2.0		3.5	2.0	2.0	3.5	2.0		3.5	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	7.5	7.0		7.5	7.0	7.0	8.5	7.0		8.5	7.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None	None	None	C-Max		None	C-Max	
Act Effct Green (s)	28.8	36.0	120.0	9.6	16.8	16.8	9.5	35.8	120.0	8.6	34.8	120.0
Actuated g/C Ratio	0.24	0.30	1.00	0.08	0.14	0.14	0.08	0.30	1.00	0.07	0.29	1.00
v/c Ratio	0.88	0.52	0.11	0.44	0.73	0.34	0.65	0.68	0.07	0.44	0.41	0.26
Control Delay	57.3	36.7	0.1	57.4	58.5	2.1	65.5	42.0	0.1	68.4	30.2	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	57.3	36.7	0.1	57.4	58.5	2.1	65.5	42.0	0.1	68.4	30.2	0.4
LOS	E	D	A	E	E	A	E	D	A	E	C	A
Approach Delay		42.6			45.0			41.4			21.6	
Approach LOS		D			D			D			C	
Queue Length 50th (ft)	276	181	0	47	141	0	69	268	0	35	141	0
Queue Length 95th (ft)	#352	243	0	77	193	0	108	344	0	67	193	0
Internal Link Dist (ft)		1105			882			544			1159	
Turn Bay Length (ft)	720			440			420			460		460
Base Capacity (vph)	872	1061	1583	529	530	449	279	1055	1583	271	1027	1583
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.84	0.52	0.11	0.23	0.68	0.33	0.64	0.68	0.07	0.40	0.41	0.26

Intersection Summary











Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 37 (31%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 90
 Control Type: Actuated-Coordinated

Timings
 1: Meridian Road & E Woodmen Road

Existing Traffic Volumes
 PM Peak Hour

Maximum v/c Ratio: 0.88
 Intersection Signal Delay: 37.8
 Intersection Capacity Utilization 78.7%
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 1: Meridian Road & E Woodmen Road

 Ø1	 Ø2 (R)		 Ø3	 Ø4
18 s	39 s		26 s	37 s
 Ø5	 Ø6 (R)		 Ø7	 Ø8
18 s	39 s		38 s	25 s

HCM 6th TWSC
2: Meridian Road & Eastonville Road

Existing Traffic Volumes
PM Peak Hour

Intersection						
Int Delay, s/veh	2.8					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↘	↗	↑↑	↗	↘	↑↑
Traffic Vol, veh/h	31	133	1356	115	82	772
Future Vol, veh/h	31	133	1356	115	82	772
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	100	0	-	400	375	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	34	145	1474	125	89	839

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	2072	737	0	0	1599
Stage 1	1474	-	-	-	-
Stage 2	598	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14
Critical Hdwy Stg 1	5.84	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22
Pot Cap-1 Maneuver	*65	*523	-	-	721
Stage 1	*493	-	-	-	-
Stage 2	*732	-	-	-	-
Platoon blocked, %	1	1	-	-	1
Mov Cap-1 Maneuver	*57	*523	-	-	721
Mov Cap-2 Maneuver	*57	-	-	-	-
Stage 1	*493	-	-	-	-
Stage 2	*642	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	37.3	0	1
HCM LOS	E		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	57	523	721	-
HCM Lane V/C Ratio	-	-	0.591	0.276	0.124	-
HCM Control Delay (s)	-	-	135.1	14.5	10.7	-
HCM Lane LOS	-	-	F	B	B	-
HCM 95th %tile Q(veh)	-	-	2.4	1.1	0.4	-

Notes
~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Timings
3: Meridian Road & Bent Grass Meadows Drive

Existing Traffic Volumes
PM Peak Hour



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	79	72	62	1356	779	98
Future Volume (vph)	79	72	62	1356	779	98
Satd. Flow (prot)	3433	1583	1770	3539	3539	1583
Flt Permitted	0.950		0.284			
Satd. Flow (perm)	3433	1583	529	3539	3539	1583
Satd. Flow (RTOR)		78				107
Lane Group Flow (vph)	86	78	67	1474	847	107
Turn Type	Prot	Perm	pm+pt	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases		4	2			6
Detector Phase	4	4	5	2	6	6
Switch Phase						
Minimum Initial (s)	8.0	8.0	5.0	15.0	15.0	15.0
Minimum Split (s)	15.5	15.5	13.5	22.5	22.5	22.5
Total Split (s)	27.0	27.0	20.0	93.0	73.0	73.0
Total Split (%)	22.5%	22.5%	16.7%	77.5%	60.8%	60.8%
Yellow Time (s)	4.0	4.0	5.0	5.5	5.5	5.5
All-Red Time (s)	3.5	3.5	3.5	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.5	7.5	8.5	7.5	7.5	7.5
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Recall Mode	None	None	None	C-Max	C-Max	C-Max
Act Effct Green (s)	8.9	8.9	95.1	96.1	84.0	84.0
Actuated g/C Ratio	0.07	0.07	0.79	0.80	0.70	0.70
v/c Ratio	0.34	0.41	0.14	0.52	0.34	0.09
Control Delay	56.3	18.2	1.5	4.6	8.2	1.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.3	18.2	1.5	4.6	8.2	1.6
LOS	E	B	A	A	A	A
Approach Delay	38.2			4.5	7.5	
Approach LOS	D			A	A	
Queue Length 50th (ft)	33	0	2	223	131	0
Queue Length 95th (ft)	59	48	m4	191	181	19
Internal Link Dist (ft)	323			1273	472	
Turn Bay Length (ft)	160		700			330
Base Capacity (vph)	557	322	538	2835	2477	1140
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.15	0.24	0.12	0.52	0.34	0.09

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 28 (23%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 55
 Control Type: Actuated-Coordinated

Timings
3: Meridian Road & Bent Grass Meadows Drive

Existing Traffic Volumes
 PM Peak Hour

Maximum v/c Ratio: 0.52

Intersection Signal Delay: 7.6

Intersection LOS: A

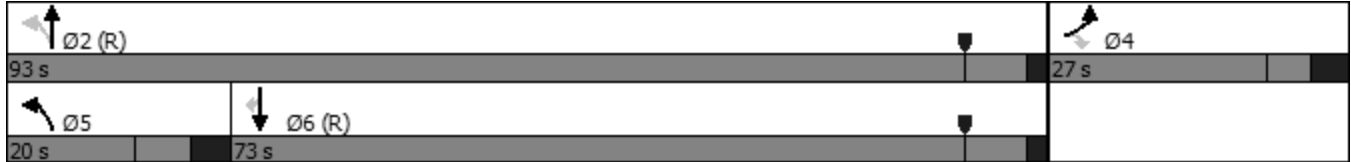
Intersection Capacity Utilization 56.7%

ICU Level of Service B

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: Meridian Road & Bent Grass Meadows Drive



HCM 6th TWSC
4: Meridian Road & Owl Place

Existing Traffic Volumes
PM Peak Hour

Intersection						
Int Delay, s/veh	0.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗	↘	↕	↕	↗
Traffic Vol, veh/h	0	7	11	1478	847	4
Future Vol, veh/h	0	7	11	1478	847	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	275	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	8	12	1607	921	4

Major/Minor	Minor2	Major1	Major2		
Conflicting Flow All	-	461	925	0	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	6.94	4.14	-	-
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	-	3.32	2.22	-	-
Pot Cap-1 Maneuver	0	*750	1119	-	-
Stage 1	0	-	-	-	-
Stage 2	0	-	-	-	-
Platoon blocked, %		1	1	-	-
Mov Cap-1 Maneuver	-	*750	1119	-	-
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.8	0.1	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1119	-	750	-	-
HCM Lane V/C Ratio	0.011	-	0.01	-	-
HCM Control Delay (s)	8.3	-	9.8	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Notes
~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

HCM 6th TWSC
 5: Meridian Park Drive & Bent Grass Meadows Drive

Existing Traffic Volumes
 PM Peak Hour

Intersection						
Int Delay, s/veh	5.3					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗	↘	↑	↘	
Traffic Vol, veh/h	65	9	91	63	10	115
Future Vol, veh/h	65	9	91	63	10	115
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	150	195	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	71	10	99	68	11	125

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	81	0	337 71
Stage 1	-	-	-	-	71 -
Stage 2	-	-	-	-	266 -
Critical Hdwy	-	-	4.12	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	-	-	2.218	-	3.518 3.318
Pot Cap-1 Maneuver	-	-	1517	-	658 991
Stage 1	-	-	-	-	952 -
Stage 2	-	-	-	-	779 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1517	-	615 991
Mov Cap-2 Maneuver	-	-	-	-	615 -
Stage 1	-	-	-	-	952 -
Stage 2	-	-	-	-	728 -

Approach	EB	WB	NB
HCM Control Delay, s	0	4.5	9.4
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	945	-	-	1517	-
HCM Lane V/C Ratio	0.144	-	-	0.065	-
HCM Control Delay (s)	9.4	-	-	7.5	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0.5	-	-	0.2	-

Timings
1: Meridian Road & E Woodmen Road

Background Traffic Volumes
AM Peak Hour - Year 2024

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	268	226	122	61	417	95	178	251	18	105	573	602
Future Volume (vph)	268	226	122	61	417	95	178	251	18	105	573	602
Satd. Flow (prot)	3433	3539	1583	3433	3539	1583	3433	3539	1583	3433	3539	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	3539	1583	3433	3539	1583	3433	3539	1583	3433	3539	1583
Satd. Flow (RTOR)			245			182			245			654
Lane Group Flow (vph)	291	246	133	66	453	103	193	273	20	114	623	654
Turn Type	Prot	NA	Free	Prot	NA	Perm	Prot	NA	Free	Prot	NA	Free
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			Free			8			Free			Free
Detector Phase	7	4		3	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	15.0	15.0	5.0	15.0		5.0	15.0	
Minimum Split (s)	12.5	22.0		12.5	22.0	22.0	13.5	22.0		13.5	22.0	
Total Split (s)	27.0	36.0		24.0	33.0	33.0	18.0	42.0		18.0	42.0	
Total Split (%)	22.5%	30.0%		20.0%	27.5%	27.5%	15.0%	35.0%		15.0%	35.0%	
Yellow Time (s)	4.0	5.0		4.0	5.0	5.0	5.0	5.0		5.0	5.0	
All-Red Time (s)	3.5	2.0		3.5	2.0	2.0	3.5	2.0		3.5	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	7.5	7.0		7.5	7.0	7.0	8.5	7.0		8.5	7.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None	None	None	C-Max		None	C-Max	
Act Effct Green (s)	15.4	31.0	120.0	7.7	20.7	20.7	11.0	45.1	120.0	8.9	43.0	120.0
Actuated g/C Ratio	0.13	0.26	1.00	0.06	0.17	0.17	0.09	0.38	1.00	0.07	0.36	1.00
v/c Ratio	0.66	0.27	0.08	0.30	0.74	0.24	0.61	0.21	0.01	0.45	0.49	0.41
Control Delay	57.0	36.2	0.1	56.6	54.8	1.4	61.4	27.7	0.0	66.3	29.9	0.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	57.0	36.2	0.1	56.6	54.8	1.4	61.4	27.7	0.0	66.3	29.9	0.6
LOS	E	D	A	E	D	A	E	C	A	E	C	A
Approach Delay		38.1			46.1			39.9			19.1	
Approach LOS		D			D			D			B	
Queue Length 50th (ft)	112	82	0	25	177	0	74	74	0	48	108	0
Queue Length 95th (ft)	153	110	0	48	223	0	#124	123	0	m65	197	0
Internal Link Dist (ft)		1105			882			544			1159	
Turn Bay Length (ft)	720			440			420			460		460
Base Capacity (vph)	557	940	1583	472	766	485	317	1329	1583	276	1267	1583
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.52	0.26	0.08	0.14	0.59	0.21	0.61	0.21	0.01	0.41	0.49	0.41

Intersection Summary











Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 30 (25%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 75
 Control Type: Actuated-Coordinated

Timings
 1: Meridian Road & E Woodmen Road

Background Traffic Volumes
 AM Peak Hour - Year 2024

Maximum v/c Ratio: 0.74
 Intersection Signal Delay: 31.6 Intersection LOS: C
 Intersection Capacity Utilization 66.1% ICU Level of Service C
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Meridian Road & E Woodmen Road

 Ø1	 Ø2 (R)		 Ø3	 Ø4
18 s	42 s		24 s	36 s
 Ø5	 Ø6 (R)		 Ø7	 Ø8
18 s	42 s		27 s	33 s

Timings
2: Meridian Road & Eastonville Road

Background Traffic Volumes
AM Peak Hour - Year 2024

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	86	48	86	100	58	37	115	446	42	114	1309	57
Future Volume (vph)	86	48	86	100	58	37	115	446	42	114	1309	57
Satd. Flow (prot)	3433	1863	1583	1770	1863	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.716			0.567			0.081			0.461		
Satd. Flow (perm)	2587	1863	1583	1056	1863	1583	151	3539	1583	859	3539	1583
Satd. Flow (RTOR)			186			186			177			177
Lane Group Flow (vph)	93	52	93	109	63	40	125	485	46	124	1423	62
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	8.0	8.0	5.0	8.0	8.0	5.0	15.0	15.0	5.0	15.0	15.0
Minimum Split (s)	12.5	14.5	14.5	12.5	14.5	14.5	12.5	22.5	22.5	13.5	22.5	22.5
Total Split (s)	18.0	20.0	20.0	18.0	20.0	20.0	18.0	67.0	67.0	15.0	64.0	64.0
Total Split (%)	15.0%	16.7%	16.7%	15.0%	16.7%	16.7%	15.0%	55.8%	55.8%	12.5%	53.3%	53.3%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	5.5	5.5	5.0	5.5	5.5
All-Red Time (s)	3.5	2.5	2.5	3.5	2.5	2.5	3.5	2.0	2.0	3.5	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.5	6.5	6.5	7.5	6.5	6.5	7.5	7.5	7.5	8.5	7.5	7.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Act Effct Green (s)	16.5	9.4	9.4	21.2	13.9	13.9	72.1	62.7	62.7	69.5	62.4	62.4
Actuated g/C Ratio	0.14	0.08	0.08	0.18	0.12	0.12	0.60	0.52	0.52	0.58	0.52	0.52
v/c Ratio	0.23	0.36	0.32	0.44	0.29	0.11	0.58	0.26	0.05	0.22	0.77	0.07
Control Delay	39.0	58.8	2.8	45.0	54.2	0.7	37.2	24.5	2.2	19.1	43.5	1.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	39.0	58.8	2.8	45.0	54.2	0.7	37.2	24.5	2.2	19.1	43.5	1.9
LOS	D	E	A	D	D	A	D	C	A	B	D	A
Approach Delay		29.2			39.4			25.4			40.0	
Approach LOS		C			D			C			D	
Queue Length 50th (ft)	30	39	0	71	47	0	53	110	2	60	544	0
Queue Length 95th (ft)	51	79	0	120	92	0	125	141	m11	123	676	m5
Internal Link Dist (ft)		324			570			1159			643	
Turn Bay Length (ft)	100		100	100		100	100		400	375		400
Base Capacity (vph)	481	209	343	250	239	366	240	1850	912	558	1841	908
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.19	0.25	0.27	0.44	0.26	0.11	0.52	0.26	0.05	0.22	0.77	0.07

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 45 (38%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
 Natural Cycle: 80
 Control Type: Actuated-Coordinated











Timings
 2: Meridian Road & Eastonville Road

Background Traffic Volumes
 AM Peak Hour - Year 2024

Maximum v/c Ratio: 0.77	
Intersection Signal Delay: 35.5	Intersection LOS: D
Intersection Capacity Utilization 72.7%	ICU Level of Service C
Analysis Period (min) 15	

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: Meridian Road & Eastonville Road

 Ø1	 Ø2 (R)		 Ø3	 Ø4
15 s	67 s		18 s	20 s
 Ø5	 Ø6 (R)		 Ø7	 Ø8
18 s	64 s		18 s	20 s

Timings
3: Meridian Road & Bent Grass Meadows Drive

Background Traffic Volumes
AM Peak Hour - Year 2024



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	64	89	68	481	1387	111
Future Volume (vph)	64	89	68	481	1387	111
Satd. Flow (prot)	3433	1583	1770	3539	3539	1583
Flt Permitted	0.950		0.114			
Satd. Flow (perm)	3433	1583	212	3539	3539	1583
Satd. Flow (RTOR)		97				121
Lane Group Flow (vph)	70	97	74	523	1508	121
Turn Type	Prot	Perm	pm+pt	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases		4	2			6
Detector Phase	4	4	5	2	6	6
Switch Phase						
Minimum Initial (s)	8.0	8.0	5.0	15.0	15.0	15.0
Minimum Split (s)	15.5	15.5	13.5	22.5	22.5	22.5
Total Split (s)	28.0	28.0	20.0	92.0	72.0	72.0
Total Split (%)	23.3%	23.3%	16.7%	76.7%	60.0%	60.0%
Yellow Time (s)	4.0	4.0	5.0	5.5	5.5	5.5
All-Red Time (s)	3.5	3.5	3.5	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.5	7.5	8.5	7.5	7.5	7.5
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Recall Mode	None	None	None	C-Max	C-Max	C-Max
Act Effct Green (s)	8.7	8.7	95.3	96.3	83.9	83.9
Actuated g/C Ratio	0.07	0.07	0.79	0.80	0.70	0.70
v/c Ratio	0.28	0.47	0.29	0.18	0.61	0.11
Control Delay	55.3	18.1	9.1	0.7	11.7	1.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	55.3	18.1	9.1	0.7	11.7	1.5
LOS	E	B	A	A	B	A
Approach Delay	33.7			1.8	10.9	
Approach LOS	C			A	B	
Queue Length 50th (ft)	27	0	5	6	307	0
Queue Length 95th (ft)	50	52	20	10	424	21
Internal Link Dist (ft)	323			1273	472	
Turn Bay Length (ft)	160		700			330
Base Capacity (vph)	586	350	317	2839	2475	1143
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.12	0.28	0.23	0.18	0.61	0.11

Intersection Summary

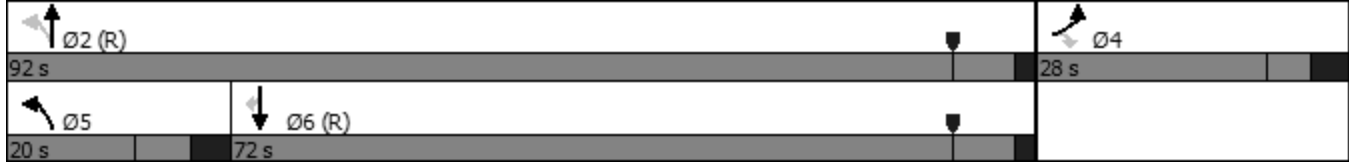
Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 95 (79%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 70
 Control Type: Actuated-Coordinated

Timings
3: Meridian Road & Bent Grass Meadows Drive

Background Traffic Volumes
 AM Peak Hour - Year 2024

Maximum v/c Ratio: 0.61	
Intersection Signal Delay: 10.2	Intersection LOS: B
Intersection Capacity Utilization 68.8%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 3: Meridian Road & Bent Grass Meadows Drive



HCM 6th TWSC
4: Meridian Road & Owl Place

Background Traffic Volumes
AM Peak Hour - Year 2024

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↑↑	↑↑	↗
Traffic Vol, veh/h	0	6	0	569	1474	2
Future Vol, veh/h	0	6	0	569	1474	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	7	0	618	1602	2

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	-	801	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	6.94	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	3.32	-
Pot Cap-1 Maneuver	0	*472	0
Stage 1	0	-	0
Stage 2	0	-	0
Platoon blocked, %		1	-
Mov Cap-1 Maneuver	-	*472	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12.7	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	472	-	-
HCM Lane V/C Ratio	-	0.014	-	-
HCM Control Delay (s)	-	12.7	-	-
HCM Lane LOS	-	B	-	-
HCM 95th %tile Q(veh)	-	0	-	-

Notes
~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection						
Int Delay, s/veh	5.4					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗	↘	↑	↘	
Traffic Vol, veh/h	58	9	121	63	8	102
Future Vol, veh/h	58	9	121	63	8	102
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	150	195	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	63	10	132	68	9	111

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	73	0	395 63
Stage 1	-	-	-	-	63 -
Stage 2	-	-	-	-	332 -
Critical Hdwy	-	-	4.12	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	-	-	2.218	-	3.518 3.318
Pot Cap-1 Maneuver	-	-	1527	-	610 1002
Stage 1	-	-	-	-	960 -
Stage 2	-	-	-	-	727 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1527	-	558 1002
Mov Cap-2 Maneuver	-	-	-	-	558 -
Stage 1	-	-	-	-	960 -
Stage 2	-	-	-	-	664 -

Approach	EB	WB	NB
HCM Control Delay, s	0	5	9.4
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	947	-	-	1527	-
HCM Lane V/C Ratio	0.126	-	-	0.086	-
HCM Control Delay (s)	9.4	-	-	7.6	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0.4	-	-	0.3	-

HCM 6th Roundabout
 6: Falcon Market Place/Meridian Park Drive & Eastonville Road

Background Traffic Volumes
 AM Peak Hour - Year 2024

Intersection			
Intersection Delay, s/veh	4.0		
Intersection LOS	A		
Approach	WB	NB	SB
Entry Lanes	1	1	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	250	189	7
Demand Flow Rate, veh/h	255	193	7
Vehicles Circulating, veh/h	0	7	246
Vehicles Exiting, veh/h	200	246	9
Ped Vol Crossing Leg, #/h	0	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	4.2	3.8	3.4
Approach LOS	A	A	A
Lane	Left	Left	Left
Designated Moves	LR	TR	LT
Assumed Moves	LR	TR	LT
RT Channelized			
Lane Util	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976
Entry Flow, veh/h	255	193	7
Cap Entry Lane, veh/h	1380	1370	1074
Entry HV Adj Factor	0.980	0.979	1.000
Flow Entry, veh/h	250	189	7
Cap Entry, veh/h	1353	1342	1074
V/C Ratio	0.185	0.141	0.007
Control Delay, s/veh	4.2	3.8	3.4
LOS	A	A	A
95th %tile Queue, veh	1	0	0

HCM 6th TWSC
7: Meridian Park Drive & Owl Place

Background Traffic Volumes
AM Peak Hour - Year 2024

Intersection												
Int Delay, s/veh	5.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↕			↕			↕			↕		
Traffic Vol, veh/h	0	6	0	0	2	0	5	3	0	0	6	0
Future Vol, veh/h	0	6	0	0	2	0	5	3	0	0	6	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	7	0	0	2	0	5	3	0	0	7	0

Major/Minor	Major1		Major2		Minor1		Minor2					
Conflicting Flow All	2	0	0	7	0	0	13	9	7	11	9	2
Stage 1	-	-	-	-	-	-	7	7	-	2	2	-
Stage 2	-	-	-	-	-	-	6	2	-	9	7	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1620	-	-	1614	-	-	1004	886	1075	1007	886	1082
Stage 1	-	-	-	-	-	-	1015	890	-	1021	894	-
Stage 2	-	-	-	-	-	-	1016	894	-	1012	890	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1620	-	-	1614	-	-	998	886	1075	1004	886	1082
Mov Cap-2 Maneuver	-	-	-	-	-	-	998	886	-	1004	886	-
Stage 1	-	-	-	-	-	-	1015	890	-	1021	894	-
Stage 2	-	-	-	-	-	-	1009	894	-	1008	890	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	0		0		8.8		9.1	
HCM LOS					A		A	

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	953	1620	-	-	1614	-	-	886
HCM Lane V/C Ratio	0.009	-	-	-	-	-	-	0.007
HCM Control Delay (s)	8.8	0	-	-	0	-	-	9.1
HCM Lane LOS	A	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0

Timings
1: Meridian Road & E Woodmen Road

Background Traffic Volumes
PM Peak Hour - Year 2024

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	718	473	166	116	393	168	233	737	110	187	503	437
Future Volume (vph)	718	473	166	116	393	168	233	737	110	187	503	437
Satd. Flow (prot)	3433	3539	1583	3433	3539	1583	3433	3539	1583	3433	3539	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	3539	1583	3433	3539	1583	3433	3539	1583	3433	3539	1583
Satd. Flow (RTOR)			314			250			314			475
Lane Group Flow (vph)	780	514	180	126	427	183	253	801	120	203	547	475
Turn Type	Prot	NA	Free	Prot	NA	Perm	Prot	NA	Free	Prot	NA	Free
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			Free			8			Free			Free
Detector Phase	7	4		3	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	15.0	15.0	5.0	15.0		5.0	15.0	
Minimum Split (s)	12.5	22.0		12.5	22.0	22.0	13.5	22.0		13.5	22.0	
Total Split (s)	38.0	37.0		26.0	25.0	25.0	18.0	39.0		18.0	39.0	
Total Split (%)	31.7%	30.8%		21.7%	20.8%	20.8%	15.0%	32.5%		15.0%	32.5%	
Yellow Time (s)	4.0	5.0		4.0	5.0	5.0	5.0	5.0		5.0	5.0	
All-Red Time (s)	3.5	2.0		3.5	2.0	2.0	3.5	2.0		3.5	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	7.5	7.0		7.5	7.0	7.0	8.5	7.0		8.5	7.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None	None	None	C-Max		None	C-Max	
Act Effct Green (s)	29.7	37.3	120.0	9.8	17.4	17.4	10.0	33.4	120.0	9.5	32.8	120.0
Actuated g/C Ratio	0.25	0.31	1.00	0.08	0.14	0.14	0.08	0.28	1.00	0.08	0.27	1.00
v/c Ratio	0.92	0.47	0.11	0.45	0.83	0.41	0.88	0.81	0.08	0.75	0.57	0.30
Control Delay	60.7	35.0	0.1	57.3	64.6	4.2	85.0	48.5	0.1	61.8	61.3	0.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	60.7	35.0	0.1	57.3	64.6	4.2	85.0	48.5	0.1	61.8	61.3	0.5
LOS	E	D	A	E	E	A	F	D	A	E	E	A
Approach Delay		44.3			48.3			51.4			37.8	
Approach LOS		D			D			D			D	
Queue Length 50th (ft)	302	165	0	48	170	0	102	310	0	84	230	0
Queue Length 95th (ft)	#409	225	0	78	#243	17	#182	#393	0	#137	290	0
Internal Link Dist (ft)		1105			882			544			1159	
Turn Bay Length (ft)	720			440			420			460		460
Base Capacity (vph)	872	1100	1583	529	530	449	287	985	1583	272	968	1583
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.89	0.47	0.11	0.24	0.81	0.41	0.88	0.81	0.08	0.75	0.57	0.30

Intersection Summary









Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 37 (31%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 90
 Control Type: Actuated-Coordinated

Timings
 1: Meridian Road & E Woodmen Road

Background Traffic Volumes
 PM Peak Hour - Year 2024

Maximum v/c Ratio: 0.92
 Intersection Signal Delay: 45.0 Intersection LOS: D
 Intersection Capacity Utilization 83.3% ICU Level of Service E
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 1: Meridian Road & E Woodmen Road

 Ø1	 Ø2 (R)	 Ø3	 Ø4
18 s	39 s	26 s	37 s
 Ø5	 Ø6 (R)	 Ø7	 Ø8
18 s	39 s	38 s	25 s

Timings
2: Meridian Road & Eastonville Road

Background Traffic Volumes
PM Peak Hour - Year 2024

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	220	131	125	32	86	138	214	1275	120	85	835	67
Future Volume (vph)	220	131	125	32	86	138	214	1275	120	85	835	67
Satd. Flow (prot)	3433	1863	1583	1770	1863	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.510			0.666			0.203			0.079		
Satd. Flow (perm)	1843	1863	1583	1241	1863	1583	378	3539	1583	147	3539	1583
Satd. Flow (RTOR)			186			186			177			177
Lane Group Flow (vph)	239	142	136	35	93	150	233	1386	130	92	908	73
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	8.0	8.0	5.0	8.0	8.0	5.0	15.0	15.0	5.0	15.0	15.0
Minimum Split (s)	12.5	14.5	14.5	12.5	14.5	14.5	12.5	22.5	22.5	13.5	22.5	22.5
Total Split (s)	18.0	22.0	22.0	18.0	22.0	22.0	25.0	62.0	62.0	18.0	55.0	55.0
Total Split (%)	15.0%	18.3%	18.3%	15.0%	18.3%	18.3%	20.8%	51.7%	51.7%	15.0%	45.8%	45.8%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	5.5	5.5	5.0	5.5	5.5
All-Red Time (s)	3.5	2.5	2.5	3.5	2.5	2.5	3.5	2.0	2.0	3.5	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.5	6.5	6.5	7.5	6.5	6.5	7.5	7.5	7.5	8.5	7.5	7.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Act Effct Green (s)	25.4	20.1	20.1	18.0	11.7	11.7	72.5	60.0	60.0	63.4	56.5	56.5
Actuated g/C Ratio	0.21	0.17	0.17	0.15	0.10	0.10	0.60	0.50	0.50	0.53	0.47	0.47
v/c Ratio	0.45	0.46	0.32	0.16	0.51	0.47	0.63	0.78	0.15	0.50	0.55	0.09
Control Delay	39.9	52.0	4.2	36.3	60.9	7.9	16.7	9.5	0.7	29.0	42.6	5.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	39.9	52.0	4.2	36.3	60.9	7.9	16.7	9.5	0.7	29.0	42.6	5.7
LOS	D	D	A	D	E	A	B	A	A	C	D	A
Approach Delay		33.8			29.2			9.8			38.9	
Approach LOS		C			C			A			D	
Queue Length 50th (ft)	78	106	0	21	70	0	26	304	2	47	389	5
Queue Length 95th (ft)	110	172	21	47	121	34	m41	371	m7	88	462	24
Internal Link Dist (ft)		333			570			1159			643	
Turn Bay Length (ft)	100		100	100		100	100		400	375		400
Base Capacity (vph)	529	315	422	265	240	366	443	1769	880	208	1665	838
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.45	0.45	0.32	0.13	0.39	0.41	0.53	0.78	0.15	0.44	0.55	0.09

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 89 (74%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
 Natural Cycle: 90
 Control Type: Actuated-Coordinated









Timings
 2: Meridian Road & Eastonville Road

Background Traffic Volumes
 PM Peak Hour - Year 2024

Maximum v/c Ratio: 0.78	
Intersection Signal Delay: 23.4	Intersection LOS: C
Intersection Capacity Utilization 77.7%	ICU Level of Service D
Analysis Period (min) 15	

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: Meridian Road & Eastonville Road

 Ø1	 Ø2 (R)	 Ø3	 Ø4
18 s	62 s	18 s	22 s
 Ø5	 Ø6 (R)	 Ø7	 Ø8
25 s	55 s	18 s	22 s

Timings
3: Meridian Road & Bent Grass Meadows Drive

Background Traffic Volumes
PM Peak Hour - Year 2024



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	82	75	64	1630	909	102
Future Volume (vph)	82	75	64	1630	909	102
Satd. Flow (prot)	3433	1583	1770	3539	3539	1583
Flt Permitted	0.950		0.238			
Satd. Flow (perm)	3433	1583	443	3539	3539	1583
Satd. Flow (RTOR)		82				111
Lane Group Flow (vph)	89	82	70	1772	988	111
Turn Type	Prot	Perm	pm+pt	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases		4	2			6
Detector Phase	4	4	5	2	6	6
Switch Phase						
Minimum Initial (s)	8.0	8.0	5.0	15.0	15.0	15.0
Minimum Split (s)	15.5	15.5	13.5	22.5	22.5	22.5
Total Split (s)	27.0	27.0	20.0	93.0	73.0	73.0
Total Split (%)	22.5%	22.5%	16.7%	77.5%	60.8%	60.8%
Yellow Time (s)	4.0	4.0	5.0	5.5	5.5	5.5
All-Red Time (s)	3.5	3.5	3.5	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.5	7.5	8.5	7.5	7.5	7.5
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Recall Mode	None	None	None	C-Max	C-Max	C-Max
Act Effct Green (s)	8.9	8.9	95.1	96.1	83.8	83.8
Actuated g/C Ratio	0.07	0.07	0.79	0.80	0.70	0.70
v/c Ratio	0.35	0.42	0.17	0.63	0.40	0.10
Control Delay	56.4	18.0	1.1	1.7	8.9	1.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.4	18.0	1.1	1.7	8.9	1.6
LOS	E	B	A	A	A	A
Approach Delay	38.0			1.6	8.1	
Approach LOS	D			A	A	
Queue Length 50th (ft)	34	0	1	16	163	0
Queue Length 95th (ft)	60	49	m2	22	222	19
Internal Link Dist (ft)	333			1273	472	
Turn Bay Length (ft)	160		700			330
Base Capacity (vph)	557	325	478	2832	2472	1139
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.16	0.25	0.15	0.63	0.40	0.10

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 28 (23%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 60
 Control Type: Actuated-Coordinated

Timings
3: Meridian Road & Bent Grass Meadows Drive

Background Traffic Volumes
 PM Peak Hour - Year 2024

Maximum v/c Ratio: 0.63

Intersection Signal Delay: 5.9

Intersection LOS: A

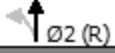


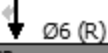
Intersection Capacity Utilization 64.2%

ICU Level of Service C

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: Meridian Road & Bent Grass Meadows Drive

 Ø2 (R) 93 s		 Ø4 27 s	
 Ø5 20 s	 Ø6 (R) 73 s		

HCM 6th TWSC
4: Meridian Road & Owl Place

Background Traffic Volumes
PM Peak Hour - Year 2024

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↑↑	↑↑	↗
Traffic Vol, veh/h	0	7	0	1633	980	4
Future Vol, veh/h	0	7	0	1633	980	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	8	0	1775	1065	4

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	-	533	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	6.94	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	3.32	-
Pot Cap-1 Maneuver	0	*700	0
Stage 1	0	-	0
Stage 2	0	-	0
Platoon blocked, %		1	-
Mov Cap-1 Maneuver	-	*700	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.2	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	700	-	-
HCM Lane V/C Ratio	-	0.011	-	-
HCM Control Delay (s)	-	10.2	-	-
HCM Lane LOS	-	B	-	-
HCM 95th %tile Q(veh)	-	0	-	-

Notes
 ~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

HCM 6th TWSC
5: Meridian Park Drive & Bent Grass Meadows Drive

Background Traffic Volumes
PM Peak Hour - Year 2024

Intersection						
Int Delay, s/veh	5.5					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗	↘	↑	↘	
Traffic Vol, veh/h	68	9	104	66	10	128
Future Vol, veh/h	68	9	104	66	10	128
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	150	195	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	74	10	113	72	11	139

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	84	0	372 74
Stage 1	-	-	-	-	74 -
Stage 2	-	-	-	-	298 -
Critical Hdwy	-	-	4.12	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	-	-	2.218	-	3.518 3.318
Pot Cap-1 Maneuver	-	-	1513	-	629 988
Stage 1	-	-	-	-	949 -
Stage 2	-	-	-	-	753 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1513	-	582 988
Mov Cap-2 Maneuver	-	-	-	-	582 -
Stage 1	-	-	-	-	949 -
Stage 2	-	-	-	-	697 -

Approach	EB	WB	NB
HCM Control Delay, s	0	4.6	9.6
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	940	-	-	1513	-
HCM Lane V/C Ratio	0.16	-	-	0.075	-
HCM Control Delay (s)	9.6	-	-	7.6	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0.6	-	-	0.2	-

HCM 6th Roundabout
 6: Falcon Market Place/Meridian Park Drive & Eastonville Road

Background Traffic Volumes
 PM Peak Hour - Year 2024

Intersection			
Intersection Delay, s/veh	5.8		
Intersection LOS	A		
Approach	WB	NB	SB
Entry Lanes	1	1	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	399	508	10
Demand Flow Rate, veh/h	407	518	10
Vehicles Circulating, veh/h	0	10	386
Vehicles Exiting, veh/h	528	386	21
Ped Vol Crossing Leg, #/h	0	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	5.2	6.2	4.0
Approach LOS	A	A	A
Lane	Left	Left	Left
Designated Moves	LR	TR	LT
Assumed Moves	LR	TR	LT
RT Channelized			
Lane Util	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976
Entry Flow, veh/h	407	518	10
Cap Entry Lane, veh/h	1380	1366	931
Entry HV Adj Factor	0.980	0.981	1.000
Flow Entry, veh/h	399	508	10
Cap Entry, veh/h	1353	1339	931
V/C Ratio	0.295	0.379	0.011
Control Delay, s/veh	5.2	6.2	4.0
LOS	A	A	A
95th %tile Queue, veh	1	2	0

HCM 6th TWSC
7: Meridian Park Drive & Owl Place

Background Traffic Volumes
PM Peak Hour - Year 2024

Intersection												
Int Delay, s/veh	6.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↕			↕			↕			↕		
Traffic Vol, veh/h	0	7	0	0	4	0	11	8	0	0	9	0
Future Vol, veh/h	0	7	0	0	4	0	11	8	0	0	9	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	8	0	0	4	0	12	9	0	0	10	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	4	0	0	8	0	0	17	12	8	17	12	4
Stage 1	-	-	-	-	-	-	8	8	-	4	4	-
Stage 2	-	-	-	-	-	-	9	4	-	13	8	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1618	-	-	1612	-	-	998	883	1074	998	883	1080
Stage 1	-	-	-	-	-	-	1013	889	-	1018	892	-
Stage 2	-	-	-	-	-	-	1012	892	-	1007	889	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1618	-	-	1612	-	-	990	883	1074	990	883	1080
Mov Cap-2 Maneuver	-	-	-	-	-	-	990	883	-	990	883	-
Stage 1	-	-	-	-	-	-	1013	889	-	1018	892	-
Stage 2	-	-	-	-	-	-	1001	892	-	997	889	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			0			8.9			9.1		
HCM LOS							A			A		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	942	1618	-	-	1612	-	-	883
HCM Lane V/C Ratio	0.022	-	-	-	-	-	-	0.011
HCM Control Delay (s)	8.9	0	-	-	0	-	-	9.1
HCM Lane LOS	A	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0

Timings
1: Meridian Road & E Woodmen Road

Background Traffic Volumes
AM Peak Hour - Year 2040

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	379	339	176	89	591	124	237	350	26	133	809	856
Future Volume (vph)	379	339	176	89	591	124	237	350	26	133	809	856
Satd. Flow (prot)	3433	3539	1583	3433	3539	1583	3433	3539	1583	3433	3539	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	3539	1583	3433	3539	1583	3433	3539	1583	3433	3539	1583
Satd. Flow (RTOR)			314			250			314			628
Lane Group Flow (vph)	412	368	191	97	642	135	258	380	28	145	879	930
Turn Type	Prot	NA	Free	Prot	NA	Perm	Prot	NA	Free	Prot	NA	Free
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			Free			8			Free			Free
Detector Phase	7	4		3	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	15.0	15.0	5.0	15.0		5.0	15.0	
Minimum Split (s)	12.5	22.0		12.5	22.0	22.0	13.5	22.0		13.5	22.0	
Total Split (s)	25.2	42.4		14.8	32.0	32.0	20.4	44.5		18.3	42.4	
Total Split (%)	21.0%	35.3%		12.3%	26.7%	26.7%	17.0%	37.1%		15.3%	35.3%	
Yellow Time (s)	4.0	5.0		4.0	5.0	5.0	5.0	5.0		5.0	5.0	
All-Red Time (s)	3.5	2.0		3.5	2.0	2.0	3.5	2.0		3.5	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	7.5	7.0		7.5	7.0	7.0	8.5	7.0		8.5	7.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None	None	None	C-Max		None	C-Max	
Act Effct Green (s)	17.2	34.4	120.0	7.1	24.3	24.3	11.7	39.3	120.0	9.2	36.8	120.0
Actuated g/C Ratio	0.14	0.29	1.00	0.06	0.20	0.20	0.10	0.33	1.00	0.08	0.31	1.00
v/c Ratio	0.84	0.36	0.12	0.48	0.90	0.26	0.77	0.33	0.02	0.55	0.81	0.59
Control Delay	66.0	35.1	0.2	62.7	62.8	1.2	69.2	32.0	0.0	46.4	56.4	1.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	66.0	35.1	0.2	62.7	62.8	1.2	69.2	32.0	0.0	46.4	56.4	1.5
LOS	E	D	A	E	E	A	E	C	A	D	E	A
Approach Delay		41.3			53.3			45.0			29.5	
Approach LOS		D			D			D			C	
Queue Length 50th (ft)	161	117	0	38	255	0	102	118	0	59	333	0
Queue Length 95th (ft)	#235	162	0	67	#351	0	#160	162	0	m62	m344	m0
Internal Link Dist (ft)		1105			882			544			1159	
Turn Bay Length (ft)	720			440			420			460		460
Base Capacity (vph)	506	1044	1583	208	737	527	340	1158	1583	280	1086	1583
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.81	0.35	0.12	0.47	0.87	0.26	0.76	0.33	0.02	0.52	0.81	0.59

Intersection Summary









Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 90
 Control Type: Actuated-Coordinated

Timings
 1: Meridian Road & E Woodmen Road

Background Traffic Volumes
 AM Peak Hour - Year 2040

Maximum v/c Ratio: 0.90
 Intersection Signal Delay: 39.1 Intersection LOS: D
 Intersection Capacity Utilization 81.3% ICU Level of Service D
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Meridian Road & E Woodmen Road

 Ø1	 Ø2 (R)	 Ø3	 Ø4
18.3 s	44.5 s	14.8 s	42.4 s
 Ø5	 Ø6 (R)	 Ø7	 Ø8
20.4 s	42.4 s	25.2 s	32 s

Timings
2: Meridian Road & Eastonville Road

Background Traffic Volumes
AM Peak Hour - Year 2040

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	86	48	86	144	58	54	118	665	60	165	1884	57
Future Volume (vph)	86	48	86	144	58	54	118	665	60	165	1884	57
Satd. Flow (prot)	3433	1863	1583	1770	1863	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.593			0.723			0.061			0.315		
Satd. Flow (perm)	2143	1863	1583	1347	1863	1583	114	3539	1583	587	3539	1583
Satd. Flow (RTOR)			177			177			168			168
Lane Group Flow (vph)	93	52	93	157	63	59	128	723	65	179	2048	62
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	8.0	8.0	5.0	8.0	8.0	5.0	15.0	15.0	5.0	15.0	15.0
Minimum Split (s)	12.5	14.5	14.5	12.5	14.5	14.5	12.5	22.5	22.5	13.5	22.5	22.5
Total Split (s)	12.5	14.5	14.5	14.1	16.1	16.1	13.3	73.4	73.4	18.0	78.1	78.1
Total Split (%)	10.4%	12.1%	12.1%	11.8%	13.4%	13.4%	11.1%	61.2%	61.2%	15.0%	65.1%	65.1%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	5.5	5.5	5.0	5.5	5.5
All-Red Time (s)	3.5	2.5	2.5	3.5	2.5	2.5	3.5	2.0	2.0	3.5	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.5	6.5	6.5	7.5	6.5	6.5	7.5	7.5	7.5	8.5	7.5	7.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Act Effct Green (s)	13.8	8.0	8.0	13.5	9.3	9.3	72.3	66.5	66.5	78.5	70.6	70.6
Actuated g/C Ratio	0.12	0.07	0.07	0.11	0.08	0.08	0.60	0.55	0.55	0.65	0.59	0.59
v/c Ratio	0.28	0.42	0.34	0.90	0.44	0.21	0.86	0.37	0.07	0.38	0.98	0.06
Control Delay	44.6	64.5	3.5	95.8	62.7	1.6	77.1	3.1	0.1	12.3	51.5	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	44.6	64.5	3.5	95.8	62.7	1.6	77.1	3.1	0.1	12.3	51.5	0.1
LOS	D	E	A	F	E	A	E	A	A	B	D	A
Approach Delay		32.9			68.4			13.2			47.0	
Approach LOS		C			E			B			D	
Queue Length 50th (ft)	31	39	0	111	47	0	46	18	1	74	844	0
Queue Length 95th (ft)	56	82	0	#226	95	0	m#129	23	m0	m75	#980	m0
Internal Link Dist (ft)		323			570			1159			643	
Turn Bay Length (ft)	100		100	100		100	100		400	375		400
Base Capacity (vph)	335	124	270	174	149	289	148	1961	952	480	2082	1000
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.28	0.42	0.34	0.90	0.42	0.20	0.86	0.37	0.07	0.37	0.98	0.06

Intersection Summary











Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 45 (38%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
 Natural Cycle: 120
 Control Type: Actuated-Coordinated

Timings
 2: Meridian Road & Eastonville Road

Background Traffic Volumes
 AM Peak Hour - Year 2040

Maximum v/c Ratio: 0.98
 Intersection Signal Delay: 39.4 Intersection LOS: D
 Intersection Capacity Utilization 91.2% ICU Level of Service F
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: Meridian Road & Eastonville Road

 Ø1	 Ø2 (R)		 Ø3	 Ø4
18 s	73.4 s		14.1 s	14.5 s
 Ø5	 Ø6 (R)		 Ø7	 Ø8
13.3 s	78.1 s		12.5 s	16.1 s

Timings
3: Meridian Road & Bent Grass Meadows Drive

Background Traffic Volumes
AM Peak Hour - Year 2040



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↖↖	↗	↖	↑↑	↑↑	↗
Traffic Volume (vph)	93	129	98	656	1971	161
Future Volume (vph)	93	129	98	656	1971	161
Satd. Flow (prot)	3433	1583	1770	3539	3539	1583
Flt Permitted	0.950		0.045			
Satd. Flow (perm)	3433	1583	84	3539	3539	1583
Satd. Flow (RTOR)		101				175
Lane Group Flow (vph)	101	140	107	713	2142	175
Turn Type	Prot	Perm	pm+pt	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases		4	2			6
Detector Phase	4	4	5	2	6	6
Switch Phase						
Minimum Initial (s)	8.0	8.0	5.0	15.0	15.0	15.0
Minimum Split (s)	15.5	15.5	13.5	22.5	22.5	22.5
Total Split (s)	16.8	16.8	15.6	103.2	87.6	87.6
Total Split (%)	14.0%	14.0%	13.0%	86.0%	73.0%	73.0%
Yellow Time (s)	4.0	4.0	5.0	5.5	5.5	5.5
All-Red Time (s)	3.5	3.5	3.5	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.5	7.5	8.5	7.5	7.5	7.5
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Recall Mode	None	None	None	C-Max	C-Max	C-Max
Act Effct Green (s)	8.7	8.7	95.3	96.3	80.9	80.9
Actuated g/C Ratio	0.07	0.07	0.79	0.80	0.67	0.67
v/c Ratio	0.41	0.67	0.65	0.25	0.90	0.16
Control Delay	58.2	34.8	55.2	0.5	22.9	1.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	58.2	34.8	55.2	0.5	22.9	1.3
LOS	E	C	E	A	C	A
Approach Delay	44.6			7.6	21.3	
Approach LOS	D			A	C	
Queue Length 50th (ft)	39	29	33	4	672	0
Queue Length 95th (ft)	68	#106	#106	5	817	22
Internal Link Dist (ft)	323			1273	472	
Turn Bay Length (ft)	160		700			330
Base Capacity (vph)	266	215	167	2840	2384	1123
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.38	0.65	0.64	0.25	0.90	0.16

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 95 (79%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 90
 Control Type: Actuated-Coordinated

Timings
3: Meridian Road & Bent Grass Meadows Drive

Background Traffic Volumes
 AM Peak Hour - Year 2040

Maximum v/c Ratio: 0.90
 Intersection Signal Delay: 19.6 Intersection LOS: B
 Intersection Capacity Utilization 86.2% ICU Level of Service E
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 3: Meridian Road & Bent Grass Meadows Drive

Ø2 (R) 103.2 s		Ø4 16.8 s	
Ø5 15.6 s	Ø6 (R) 87.6 s		

HCM 6th TWSC
4: Meridian Road & Owl Place

Background Traffic Volumes
AM Peak Hour - Year 2040

Intersection						
Int Delay, s/veh	0.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↑↑	↑↑	↗
Traffic Vol, veh/h	0	9	0	805	2097	3
Future Vol, veh/h	0	9	0	805	2097	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	10	0	875	2279	3

Major/Minor	Minor2	Major1	Major2		
Conflicting Flow All	-	1140	-	0	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-
Pot Cap-1 Maneuver	0	*219	0	-	-
Stage 1	0	-	0	-	-
Stage 2	0	-	0	-	-
Platoon blocked, %		1		-	-
Mov Cap-1 Maneuver	-	*219	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	22.2	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	219	-	-
HCM Lane V/C Ratio	-	0.045	-	-
HCM Control Delay (s)	-	22.2	-	-
HCM Lane LOS	-	C	-	-
HCM 95th %tile Q(veh)	-	0.1	-	-

Notes
 ~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

HCM 6th TWSC
5: Meridian Park Drive & Bent Grass Meadows Drive

Background Traffic Volumes
AM Peak Hour - Year 2040

Intersection						
Int Delay, s/veh	5.6					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗	↘	↑	↘	
Traffic Vol, veh/h	84	14	167	92	12	143
Future Vol, veh/h	84	14	167	92	12	143
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	150	195	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	91	15	182	100	13	155

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	106	0	555 91
Stage 1	-	-	-	-	91 -
Stage 2	-	-	-	-	464 -
Critical Hdwy	-	-	4.12	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	-	-	2.218	-	3.518 3.318
Pot Cap-1 Maneuver	-	-	1485	-	493 967
Stage 1	-	-	-	-	933 -
Stage 2	-	-	-	-	633 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1485	-	432 967
Mov Cap-2 Maneuver	-	-	-	-	432 -
Stage 1	-	-	-	-	933 -
Stage 2	-	-	-	-	555 -

Approach	EB	WB	NB
HCM Control Delay, s	0	5	10
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	882	-	-	1485	-
HCM Lane V/C Ratio	0.191	-	-	0.122	-
HCM Control Delay (s)	10	-	-	7.8	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.7	-	-	0.4	-

HCM 6th Roundabout
 6: Falcon Market Place/Meridian Park Drive & Eastonville Road

Background Traffic Volumes
 AM Peak Hour - Year 2040

Intersection			
Intersection Delay, s/veh	4.0		
Intersection LOS	A		
Approach	WB	NB	SB
Entry Lanes	1	1	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	253	189	7
Demand Flow Rate, veh/h	258	193	7
Vehicles Circulating, veh/h	0	7	246
Vehicles Exiting, veh/h	200	246	12
Ped Vol Crossing Leg, #/h	0	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	4.2	3.8	3.4
Approach LOS	A	A	A
Lane	Left	Left	Left
Designated Moves	LR	TR	LT
Assumed Moves	LR	TR	LT
RT Channelized			
Lane Util	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976
Entry Flow, veh/h	258	193	7
Cap Entry Lane, veh/h	1380	1370	1074
Entry HV Adj Factor	0.981	0.979	1.000
Flow Entry, veh/h	253	189	7
Cap Entry, veh/h	1353	1342	1074
V/C Ratio	0.187	0.141	0.007
Control Delay, s/veh	4.2	3.8	3.4
LOS	A	A	A
95th %tile Queue, veh	1	0	0

HCM 6th TWSC
7: Meridian Park Drive & Owl Place

Background Traffic Volumes
AM Peak Hour - Year 2040

Intersection												
Int Delay, s/veh	5.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↕			↕			↕			↕		
Traffic Vol, veh/h	0	9	0	0	3	0	8	3	0	0	6	0
Future Vol, veh/h	0	9	0	0	3	0	8	3	0	0	6	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	10	0	0	3	0	9	3	0	0	7	0

























Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	3	0	0	10	0	0	17	13	10	15	13	3
Stage 1	-	-	-	-	-	-	10	10	-	3	3	-
Stage 2	-	-	-	-	-	-	7	3	-	12	10	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1619	-	-	1610	-	-	998	881	1071	1001	881	1081
Stage 1	-	-	-	-	-	-	1011	887	-	1020	893	-
Stage 2	-	-	-	-	-	-	1015	893	-	1009	887	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1619	-	-	1610	-	-	992	881	1071	998	881	1081
Mov Cap-2 Maneuver	-	-	-	-	-	-	992	881	-	998	881	-
Stage 1	-	-	-	-	-	-	1011	887	-	1020	893	-
Stage 2	-	-	-	-	-	-	1008	893	-	1005	887	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			0			8.8			9.1		
HCM LOS							A			A		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	959	1619	-	-	1610	-	-	881
HCM Lane V/C Ratio	0.012	-	-	-	-	-	-	0.007
HCM Control Delay (s)	8.8	0	-	-	0	-	-	9.1
HCM Lane LOS	A	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0

Timings
1: Meridian Road & E Woodmen Road

Background Traffic Volumes
PM Peak Hour - Year 2040

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1027	708	240	168	545	231	308	1042	159	233	680	610
Future Volume (vph)	1027	708	240	168	545	231	308	1042	159	233	680	610
Satd. Flow (prot)	3433	3539	1583	3433	3539	1583	3433	3539	1583	3433	3539	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	3539	1583	3433	3539	1583	3433	3539	1583	3433	3539	1583
Satd. Flow (RTOR)			314			250			314			663
Lane Group Flow (vph)	1116	770	261	183	592	251	335	1133	173	253	739	663
Turn Type	Prot	NA	Free	Prot	NA	Perm	Prot	NA	Free	Prot	NA	Free
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			Free			8			Free			Free
Detector Phase	7	4		3	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	15.0	15.0	5.0	15.0		5.0	15.0	
Minimum Split (s)	12.5	22.0		12.5	22.0	22.0	13.5	22.0		13.5	22.0	
Total Split (s)	38.0	43.1		18.9	24.0	24.0	21.0	42.0		16.0	37.0	
Total Split (%)	31.7%	35.9%		15.8%	20.0%	20.0%	17.5%	35.0%		13.3%	30.8%	
Yellow Time (s)	4.0	5.0		4.0	5.0	5.0	5.0	5.0		5.0	5.0	
All-Red Time (s)	3.5	2.0		3.5	2.0	2.0	3.5	2.0		3.5	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	7.5	7.0		7.5	7.0	7.0	8.5	7.0		8.5	7.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None	None	None	C-Max		None	C-Max	
Act Effct Green (s)	30.5	36.9	120.0	10.6	17.0	17.0	12.5	35.0	120.0	7.5	30.0	120.0
Actuated g/C Ratio	0.25	0.31	1.00	0.09	0.14	0.14	0.10	0.29	1.00	0.06	0.25	1.00
v/c Ratio	1.28	0.71	0.16	0.60	1.18	0.57	0.94	1.10	0.11	1.18	0.84	0.42
Control Delay	172.3	41.3	0.2	61.3	145.4	11.4	87.9	98.9	0.1	157.3	75.2	1.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	172.3	41.3	0.2	61.3	145.4	11.4	87.9	98.9	0.1	157.3	75.2	1.0
LOS	F	D	A	E	F	B	F	F	A	F	E	A
Approach Delay		104.4			97.6			86.2			58.0	
Approach LOS		F			F			F			E	
Queue Length 50th (ft)	~564	280	0	71	~289	1	135	~523	0	~123	318	0
Queue Length 95th (ft)	#696	352	0	109	#406	78	#225	#658	0	#211	#386	4
Internal Link Dist (ft)		1105			882			544			1159	
Turn Bay Length (ft)	720			440			420			460		460
Base Capacity (vph)	872	1087	1583	326	501	438	357	1032	1583	214	884	1583
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.28	0.71	0.16	0.56	1.18	0.57	0.94	1.10	0.11	1.18	0.84	0.42

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 37 (31%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 150
 Control Type: Actuated-Coordinated

Timings

1: Meridian Road & E Woodmen Road

Background Traffic Volumes

PM Peak Hour - Year 2040

Maximum v/c Ratio: 1.28

Intersection Signal Delay: 86.9

Intersection LOS: F

Intersection Capacity Utilization 104.4%

ICU Level of Service G

Analysis Period (min) 15









~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

























Queue shown is maximum after two cycles.

Splits and Phases: 1: Meridian Road & E Woodmen Road

 Ø1	 Ø2 (R)	 Ø3	 Ø4
16 s	42 s	18.9 s	43.1 s
 Ø5	 Ø6 (R)	 Ø7	 Ø8
21 s	37 s	38 s	24 s

Timings
2: Meridian Road & Eastonville Road

Background Traffic Volumes
PM Peak Hour - Year 2040

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	220	131	125	47	86	200	220	1893	173	123	1190	67
Future Volume (vph)	220	131	125	47	86	200	220	1893	173	123	1190	67
Satd. Flow (prot)	3433	1863	1583	1770	1863	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.632			0.564			0.109			0.064		
Satd. Flow (perm)	2284	1863	1583	1051	1863	1583	203	3539	1583	119	3539	1583
Satd. Flow (RTOR)			255			255			188			245
Lane Group Flow (vph)	239	142	136	51	93	217	239	2058	188	134	1293	73
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	8.0	8.0	5.0	8.0	8.0	5.0	15.0	15.0	5.0	15.0	15.0
Minimum Split (s)	12.5	14.5	14.5	12.5	14.5	14.5	12.5	22.5	22.5	13.5	22.5	22.5
Total Split (s)	12.6	16.2	16.2	12.5	16.1	16.1	22.8	76.9	76.9	14.4	68.5	68.5
Total Split (%)	10.5%	13.5%	13.5%	10.4%	13.4%	13.4%	19.0%	64.1%	64.1%	12.0%	57.1%	57.1%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	5.5	5.5	5.0	5.5	5.5
All-Red Time (s)	3.5	2.5	2.5	3.5	2.5	2.5	3.5	2.0	2.0	3.5	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.5	6.5	6.5	7.5	6.5	6.5	7.5	7.5	7.5	8.5	7.5	7.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Act Effct Green (s)	15.0	11.9	11.9	13.3	9.3	9.3	81.9	69.4	69.4	69.0	63.8	63.8
Actuated g/C Ratio	0.12	0.10	0.10	0.11	0.08	0.08	0.68	0.58	0.58	0.58	0.53	0.53
v/c Ratio	0.72	0.77	0.35	0.35	0.65	0.61	0.78	1.01	0.19	0.88	0.69	0.08
Control Delay	59.7	81.0	2.5	49.6	74.5	10.9	35.3	16.4	0.1	63.4	42.8	0.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	59.7	81.0	2.5	49.6	74.5	10.9	35.3	16.4	0.1	63.4	42.8	0.5
LOS	E	F	A	D	E	B	D	B	A	E	D	A
Approach Delay		50.5			32.7			17.0			42.6	
Approach LOS		D			C			B			D	
Queue Length 50th (ft)	85	111	0	34	71	0	94	~522	1	63	556	0
Queue Length 95th (ft)	#138	#240	0	71	#141	45	m75	m94	m1	#180	633	m2
Internal Link Dist (ft)		323			570			1159			643	
Turn Bay Length (ft)	100		100	100		100	100		400	375		400
Base Capacity (vph)	333	184	386	146	149	361	341	2046	994	153	1880	955
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.72	0.77	0.35	0.35	0.62	0.60	0.70	1.01	0.19	0.88	0.69	0.08

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 89 (74%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow

Natural Cycle: 120











Control Type: Actuated-Coordinated

Timings
 2: Meridian Road & Eastonville Road

Background Traffic Volumes
 PM Peak Hour - Year 2040

Maximum v/c Ratio: 1.01
 Intersection Signal Delay: 29.6 Intersection LOS: C
 Intersection Capacity Utilization 96.9% ICU Level of Service F
 Analysis Period (min) 15
 ~ Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: Meridian Road & Eastonville Road

 Ø1	 Ø2 (R)		 Ø3	 Ø4
14.4 s	76.9 s		12.5 s	16.2 s
 Ø5	 Ø6 (R)		 Ø7	 Ø8
22.8 s	68.5 s		12.6 s	16.1 s

Timings
3: Meridian Road & Bent Grass Meadows Drive

Background Traffic Volumes
PM Peak Hour - Year 2040



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	119	108	93	2254	1268	147
Future Volume (vph)	119	108	93	2254	1268	147
Satd. Flow (prot)	3433	1583	1770	3539	3539	1583
Flt Permitted	0.950		0.136			
Satd. Flow (perm)	3433	1583	253	3539	3539	1583
Satd. Flow (RTOR)		117				160
Lane Group Flow (vph)	129	117	101	2450	1378	160
Turn Type	Prot	Perm	pm+pt	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases		4	2			6
Detector Phase	4	4	5	2	6	6
Switch Phase						
Minimum Initial (s)	8.0	8.0	5.0	15.0	15.0	15.0
Minimum Split (s)	15.5	15.5	13.5	22.5	22.5	22.5
Total Split (s)	17.0	17.0	15.4	103.0	87.6	87.6
Total Split (%)	14.2%	14.2%	12.8%	85.8%	73.0%	73.0%
Yellow Time (s)	4.0	4.0	5.0	5.5	5.5	5.5
All-Red Time (s)	3.5	3.5	3.5	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.5	7.5	8.5	7.5	7.5	7.5
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Recall Mode	None	None	None	C-Max	C-Max	C-Max
Act Effct Green (s)	9.0	9.0	95.0	96.0	80.8	80.8
Actuated g/C Ratio	0.08	0.08	0.79	0.80	0.67	0.67
v/c Ratio	0.50	0.52	0.36	0.87	0.58	0.14
Control Delay	60.2	17.8	1.9	10.3	11.8	1.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	60.2	17.8	1.9	10.3	11.8	1.4
LOS	E	B	A	B	B	A
Approach Delay	40.1			10.0	10.7	
Approach LOS	D			A	B	
Queue Length 50th (ft)	50	0	3	948	280	0
Queue Length 95th (ft)	82	58	m3	m942	338	22
Internal Link Dist (ft)	323			1273	472	
Turn Bay Length (ft)	160		700			330
Base Capacity (vph)	271	233	287	2830	2384	1118
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.48	0.50	0.35	0.87	0.58	0.14

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 28 (23%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 90
 Control Type: Actuated-Coordinated

Timings
3: Meridian Road & Bent Grass Meadows Drive

Background Traffic Volumes
 PM Peak Hour - Year 2040

Maximum v/c Ratio: 0.87

Intersection Signal Delay: 11.9

Intersection LOS: B

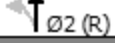


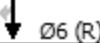
Intersection Capacity Utilization 81.5%

ICU Level of Service D

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: Meridian Road & Bent Grass Meadows Drive

 Ø2 (R) 103 s		 Ø4 17 s	
 Ø5 15.4 s	 Ø6 (R) 87.6 s		

HCM 6th TWSC
4: Meridian Road & Owl Place

Background Traffic Volumes
PM Peak Hour - Year 2040

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↑↑	↑↑	↗
Traffic Vol, veh/h	0	11	0	2313	1370	6
Future Vol, veh/h	0	11	0	2313	1370	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	12	0	2514	1489	7

Major/Minor	Minor2	Major1	Major2		
Conflicting Flow All	-	745	-	0	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-
Pot Cap-1 Maneuver	0	*523	0	-	-
Stage 1	0	-	0	-	-
Stage 2	0	-	0	-	-
Platoon blocked, %		1		-	-
Mov Cap-1 Maneuver	-	*523	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	523	-	-
HCM Lane V/C Ratio	-	0.023	-	-
HCM Control Delay (s)	-	12	-	-
HCM Lane LOS	-	B	-	-
HCM 95th %tile Q(veh)	-	0.1	-	-

Notes
 ~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

HCM 6th TWSC
 5: Meridian Park Drive & Bent Grass Meadows Drive

Background Traffic Volumes
 PM Peak Hour - Year 2040

Intersection						
Int Delay, s/veh	5.7					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗	↘	↑	↘	
Traffic Vol, veh/h	98	14	137	95	15	173
Future Vol, veh/h	98	14	137	95	15	173
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	150	195	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	107	15	149	103	16	188

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	122	0	508 107
Stage 1	-	-	-	-	107 -
Stage 2	-	-	-	-	401 -
Critical Hdwy	-	-	4.12	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	-	-	2.218	-	3.518 3.318
Pot Cap-1 Maneuver	-	-	1465	-	525 947
Stage 1	-	-	-	-	917 -
Stage 2	-	-	-	-	676 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1465	-	471 947
Mov Cap-2 Maneuver	-	-	-	-	471 -
Stage 1	-	-	-	-	917 -
Stage 2	-	-	-	-	607 -

Approach	EB	WB	NB
HCM Control Delay, s	0	4.6	10.4
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	876	-	-	1465	-
HCM Lane V/C Ratio	0.233	-	-	0.102	-
HCM Control Delay (s)	10.4	-	-	7.7	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.9	-	-	0.3	-

HCM 6th Roundabout
 6: Falcon Market Place/Meridian Park Drive & Eastonville Road

Background Traffic Volumes
 PM Peak Hour - Year 2040

Intersection			
Intersection Delay, s/veh	5.8		
Intersection LOS	A		
Approach	WB	NB	SB
Entry Lanes	1	1	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	405	508	10
Demand Flow Rate, veh/h	414	518	10
Vehicles Circulating, veh/h	0	10	386
Vehicles Exiting, veh/h	528	386	28
Ped Vol Crossing Leg, #/h	0	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	5.3	6.2	4.0
Approach LOS	A	A	A
Lane	Left	Left	Left
Designated Moves	LR	TR	LT
Assumed Moves	LR	TR	LT
RT Channelized			
Lane Util	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976
Entry Flow, veh/h	414	518	10
Cap Entry Lane, veh/h	1380	1366	931
Entry HV Adj Factor	0.978	0.981	1.000
Flow Entry, veh/h	405	508	10
Cap Entry, veh/h	1350	1339	931
V/C Ratio	0.300	0.379	0.011
Control Delay, s/veh	5.3	6.2	4.0
LOS	A	A	A
95th %tile Queue, veh	1	2	0

HCM 6th TWSC
7: Meridian Park Drive & Owl Place

Background Traffic Volumes
PM Peak Hour - Year 2040

Intersection												
Int Delay, s/veh	6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↕			↕			↕			↕		
Traffic Vol, veh/h	0	11	0	0	6	0	17	8	0	0	9	0
Future Vol, veh/h	0	11	0	0	6	0	17	8	0	0	9	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	12	0	0	7	0	18	9	0	0	10	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	7	0	0	12	0	0	24	19	12	24	19	7
Stage 1	-	-	-	-	-	-	12	12	-	7	7	-
Stage 2	-	-	-	-	-	-	12	7	-	17	12	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1614	-	-	1607	-	-	987	875	1069	987	875	1075
Stage 1	-	-	-	-	-	-	1009	886	-	1015	890	-
Stage 2	-	-	-	-	-	-	1009	890	-	1002	886	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1614	-	-	1607	-	-	978	875	1069	979	875	1075
Mov Cap-2 Maneuver	-	-	-	-	-	-	978	875	-	979	875	-
Stage 1	-	-	-	-	-	-	1009	886	-	1015	890	-
Stage 2	-	-	-	-	-	-	998	890	-	992	886	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			0			8.9			9.2		
HCM LOS							A			A		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	942	1614	-	-	1607	-	-	875
HCM Lane V/C Ratio	0.029	-	-	-	-	-	-	0.011
HCM Control Delay (s)	8.9	0	-	-	0	-	-	9.2
HCM Lane LOS	A	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0

Timings
1: Meridian Road & E Woodmen Road

Total Traffic Volumes
AM Peak Hour - Year 2024

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	282	226	122	61	417	121	178	277	18	131	599	615
Future Volume (vph)	282	226	122	61	417	121	178	277	18	131	599	615
Satd. Flow (prot)	3433	3539	1583	3433	3539	1583	3433	3539	1583	3433	3539	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	3539	1583	3433	3539	1583	3433	3539	1583	3433	3539	1583
Satd. Flow (RTOR)			245			182			245			668
Lane Group Flow (vph)	307	246	133	66	453	132	193	301	20	142	651	668
Turn Type	Prot	NA	Free	Prot	NA	Perm	Prot	NA	Free	Prot	NA	Free
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			Free			8			Free			Free
Detector Phase	7	4		3	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	15.0	15.0	5.0	15.0		5.0	15.0	
Minimum Split (s)	12.5	22.0		12.5	22.0	22.0	13.5	22.0		13.5	22.0	
Total Split (s)	27.0	36.0		24.0	33.0	33.0	18.0	42.0		18.0	42.0	
Total Split (%)	22.5%	30.0%		20.0%	27.5%	27.5%	15.0%	35.0%		15.0%	35.0%	
Yellow Time (s)	4.0	5.0		4.0	5.0	5.0	5.0	5.0		5.0	5.0	
All-Red Time (s)	3.5	2.0		3.5	2.0	2.0	3.5	2.0		3.5	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	7.5	7.0		7.5	7.0	7.0	8.5	7.0		8.5	7.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None	None	None	C-Max		None	C-Max	
Act Effct Green (s)	15.8	31.4	120.0	7.7	20.7	20.7	11.0	44.0	120.0	9.5	42.6	120.0
Actuated g/C Ratio	0.13	0.26	1.00	0.06	0.17	0.17	0.09	0.37	1.00	0.08	0.36	1.00
v/c Ratio	0.68	0.27	0.08	0.30	0.74	0.31	0.61	0.23	0.01	0.52	0.52	0.42
Control Delay	57.4	35.9	0.1	56.6	54.8	3.7	61.4	28.6	0.0	62.9	34.3	0.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	57.4	35.9	0.1	56.6	54.8	3.7	61.4	28.6	0.0	62.9	34.3	0.5
LOS	E	D	A	E	D	A	E	C	A	E	C	A
Approach Delay		38.6			44.6			39.8			21.6	
Approach LOS		D			D			D			C	
Queue Length 50th (ft)	118	82	0	25	177	0	74	85	0	59	147	0
Queue Length 95th (ft)	161	110	0	48	223	19	#124	134	0	m76	m218	m0
Internal Link Dist (ft)		1105			882			544			1159	
Turn Bay Length (ft)	720			440			420			460		460
Base Capacity (vph)	557	945	1583	472	766	485	317	1298	1583	287	1255	1583
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.55	0.26	0.08	0.14	0.59	0.27	0.61	0.23	0.01	0.49	0.52	0.42

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 30 (25%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 75
 Control Type: Actuated-Coordinated

Timings
 1: Meridian Road & E Woodmen Road

Total Traffic Volumes
 AM Peak Hour - Year 2024

Maximum v/c Ratio: 0.74

Intersection Signal Delay: 32.5

Intersection LOS: C

Intersection Capacity Utilization 67.2%

ICU Level of Service C









Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

































m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Meridian Road & E Woodmen Road

 Ø1	 Ø2 (R)	 Ø3	 Ø4
18 s	42 s	24 s	36 s
 Ø5	 Ø6 (R)	 Ø7	 Ø8
18 s	42 s	27 s	33 s

Timings
2: Meridian Road & Eastonville Road

Total Traffic Volumes
AM Peak Hour - Year 2024

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 		 			 		 	 	 	 	 
Traffic Volume (vph)	134	61	197	100	71	37	273	354	42	114	1280	108
Future Volume (vph)	134	61	197	100	71	37	273	354	42	114	1280	108
Satd. Flow (prot)	3433	1863	1583	1770	1863	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.555			0.714			0.065			0.524		
Satd. Flow (perm)	2006	1863	1583	1330	1863	1583	121	3539	1583	976	3539	1583
Satd. Flow (RTOR)			186			186			177			177
Lane Group Flow (vph)	146	66	214	109	77	40	297	385	46	124	1391	117
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	8.0	8.0	5.0	8.0	8.0	5.0	15.0	15.0	5.0	15.0	15.0
Minimum Split (s)	12.5	14.5	14.5	12.5	14.5	14.5	12.5	22.5	22.5	13.5	22.5	22.5
Total Split (s)	18.0	20.0	20.0	18.0	20.0	20.0	18.0	67.0	67.0	15.0	64.0	64.0
Total Split (%)	15.0%	16.7%	16.7%	15.0%	16.7%	16.7%	15.0%	55.8%	55.8%	12.5%	53.3%	53.3%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	5.5	5.5	5.0	5.5	5.5
All-Red Time (s)	3.5	2.5	2.5	3.5	2.5	2.5	3.5	2.0	2.0	3.5	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.5	6.5	6.5	7.5	6.5	6.5	7.5	7.5	7.5	8.5	7.5	7.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Act Effct Green (s)	20.1	10.2	10.2	18.1	10.7	10.7	76.1	62.4	62.4	63.0	56.5	56.5
Actuated g/C Ratio	0.17	0.08	0.08	0.15	0.09	0.09	0.63	0.52	0.52	0.52	0.47	0.47
v/c Ratio	0.30	0.42	0.70	0.46	0.47	0.13	1.08	0.21	0.05	0.22	0.83	0.14
Control Delay	39.2	59.4	23.8	45.6	60.7	0.9	118.2	23.4	1.8	20.4	50.8	9.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	39.2	59.4	23.8	45.6	60.7	0.9	118.2	23.4	1.8	20.4	50.8	9.2
LOS	D	E	C	D	E	A	F	C	A	C	D	A
Approach Delay		34.6			42.8			60.7			45.5	
Approach LOS		C			D			E			D	
Queue Length 50th (ft)	47	50	21	71	58	0	~215	85	1	65	565	12
Queue Length 95th (ft)	73	94	99	118	106	0	#450	116	m9	m121	677	m56
Internal Link Dist (ft)		324			570			1159			643	
Turn Bay Length (ft)	100		100	100		100	100		400	375		400
Base Capacity (vph)	498	209	343	246	209	343	274	1840	908	561	1666	838
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.29	0.32	0.62	0.44	0.37	0.12	1.08	0.21	0.05	0.22	0.83	0.14

Intersection Summary











Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 45 (38%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 90
 Control Type: Actuated-Coordinated

Timings
 2: Meridian Road & Eastonville Road

Total Traffic Volumes
 AM Peak Hour - Year 2024

Maximum v/c Ratio: 1.08
 Intersection Signal Delay: 47.4 Intersection LOS: D
 Intersection Capacity Utilization 80.6% ICU Level of Service D
 Analysis Period (min) 15
 ~ Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: Meridian Road & Eastonville Road

 Ø1	 Ø2 (R)		 Ø3	 Ø4
15 s	67 s		18 s	20 s
 Ø5	 Ø6 (R)		 Ø7	 Ø8
18 s	64 s		18 s	20 s

Timings
3: Meridian Road & Bent Grass Meadows Drive

Total Traffic Volumes
AM Peak Hour - Year 2024



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	144	89	68	493	1396	142
Future Volume (vph)	144	89	68	493	1396	142
Satd. Flow (prot)	3433	1583	1770	3539	3539	1583
Flt Permitted	0.950		0.107			
Satd. Flow (perm)	3433	1583	199	3539	3539	1583
Satd. Flow (RTOR)		97				154
Lane Group Flow (vph)	157	97	74	536	1517	154
Turn Type	Prot	Perm	pm+pt	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases		4	2			6
Detector Phase	4	4	5	2	6	6
Switch Phase						
Minimum Initial (s)	8.0	8.0	5.0	15.0	15.0	15.0
Minimum Split (s)	15.5	15.5	13.5	22.5	22.5	22.5
Total Split (s)	28.0	28.0	20.0	92.0	72.0	72.0
Total Split (%)	23.3%	23.3%	16.7%	76.7%	60.0%	60.0%
Yellow Time (s)	4.0	4.0	5.0	5.5	5.5	5.5
All-Red Time (s)	3.5	3.5	3.5	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.5	7.5	8.5	7.5	7.5	7.5
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Recall Mode	None	None	None	C-Max	C-Max	C-Max
Act Effct Green (s)	10.9	10.9	93.1	94.1	81.6	81.6
Actuated g/C Ratio	0.09	0.09	0.78	0.78	0.68	0.68
v/c Ratio	0.51	0.42	0.30	0.19	0.63	0.14
Control Delay	57.4	15.4	8.0	1.4	13.4	1.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	57.4	15.4	8.0	1.4	13.4	1.7
LOS	E	B	A	A	B	A
Approach Delay	41.4			2.2	12.4	
Approach LOS	D			A	B	
Queue Length 50th (ft)	60	0	4	14	338	0
Queue Length 95th (ft)	93	51	11	20	467	25
Internal Link Dist (ft)	323			1273	472	
Turn Bay Length (ft)	160		700			330
Base Capacity (vph)	586	350	305	2776	2407	1126
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.27	0.28	0.24	0.19	0.63	0.14

Intersection Summary

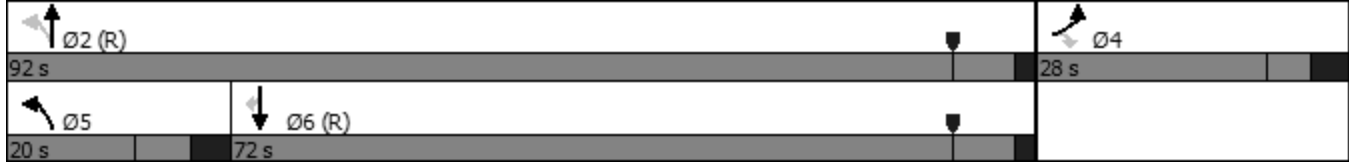
Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 95 (79%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 70
 Control Type: Actuated-Coordinated

Timings
3: Meridian Road & Bent Grass Meadows Drive

Total Traffic Volumes
 AM Peak Hour - Year 2024

Maximum v/c Ratio: 0.63	
Intersection Signal Delay: 12.8	Intersection LOS: B
Intersection Capacity Utilization 69.0%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 3: Meridian Road & Bent Grass Meadows Drive



HCM 6th TWSC
4: Meridian Road & Owl Place

Total Traffic Volumes
AM Peak Hour - Year 2024

Intersection						
Int Delay, s/veh	0.3					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↑↑	↑↑	↗
Traffic Vol, veh/h	0	50	0	581	1451	52
Future Vol, veh/h	0	50	0	581	1451	52
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	54	0	632	1577	57

Major/Minor	Minor2	Major1	Major2		
Conflicting Flow All	-	789	-	0	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-
Pot Cap-1 Maneuver	0	*497	0	-	-
Stage 1	0	-	0	-	-
Stage 2	0	-	0	-	-
Platoon blocked, %		1		-	-
Mov Cap-1 Maneuver	-	*497	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	13.1	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	497	-	-
HCM Lane V/C Ratio	-	0.109	-	-
HCM Control Delay (s)	-	13.1	-	-
HCM Lane LOS	-	B	-	-
HCM 95th %tile Q(veh)	-	0.4	-	-

Notes
~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

HCM 6th TWSC
 5: Meridian Park Drive & Bent Grass Meadows Drive

Total Traffic Volumes
 AM Peak Hour - Year 2024

Intersection						
Int Delay, s/veh	6.5					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗	↘	↑	↘	
Traffic Vol, veh/h	58	22	152	63	21	182
Future Vol, veh/h	58	22	152	63	21	182
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	150	195	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	63	24	165	68	23	198

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	87	0	461 63
Stage 1	-	-	-	-	63 -
Stage 2	-	-	-	-	398 -
Critical Hdwy	-	-	4.12	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	-	-	2.218	-	3.518 3.318
Pot Cap-1 Maneuver	-	-	1509	-	559 1002
Stage 1	-	-	-	-	960 -
Stage 2	-	-	-	-	678 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1509	-	498 1002
Mov Cap-2 Maneuver	-	-	-	-	498 -
Stage 1	-	-	-	-	960 -
Stage 2	-	-	-	-	604 -

Approach	EB	WB	NB
HCM Control Delay, s	0	5.4	10.2
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	907	-	-	1509	-
HCM Lane V/C Ratio	0.243	-	-	0.109	-
HCM Control Delay (s)	10.2	-	-	7.7	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	1	-	-	0.4	-

HCM 6th Roundabout
 6: Falcon Market Place/Meridian Park Drive & Eastonville Road

Total Traffic Volumes
 AM Peak Hour - Year 2024

Intersection			
Intersection Delay, s/veh	5.5		
Intersection LOS	A		
Approach	WB	NB	SB
Entry Lanes	1	1	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	491	189	193
Demand Flow Rate, veh/h	501	193	197
Vehicles Circulating, veh/h	0	197	246
Vehicles Exiting, veh/h	390	246	255
Ped Vol Crossing Leg, #/h	0	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	6.0	4.8	5.1
Approach LOS	A	A	A
Lane	Left	Left	Left
Designated Moves	LR	TR	LT
Assumed Moves	LR	TR	LT
RT Channelized			
Lane Util	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976
Entry Flow, veh/h	501	193	197
Cap Entry Lane, veh/h	1380	1129	1074
Entry HV Adj Factor	0.980	0.979	0.980
Flow Entry, veh/h	491	189	193
Cap Entry, veh/h	1352	1105	1052
V/C Ratio	0.363	0.171	0.183
Control Delay, s/veh	6.0	4.8	5.1
LOS	A	A	A
95th %tile Queue, veh	2	1	1

HCM 6th TWSC
7: Meridian Park Drive & Owl Place

Total Traffic Volumes
AM Peak Hour - Year 2024

Intersection												
Int Delay, s/veh	9.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↕			↕			↕			↕		
Traffic Vol, veh/h	0	6	0	50	2	0	5	96	44	0	50	0
Future Vol, veh/h	0	6	0	50	2	0	5	96	44	0	50	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	7	0	54	2	0	5	104	48	0	54	0

Major/Minor	Major1		Major2		Minor1		Minor2					
Conflicting Flow All	2	0	0	7	0	0	144	117	7	193	117	2
Stage 1	-	-	-	-	-	-	7	7	-	110	110	-
Stage 2	-	-	-	-	-	-	137	110	-	83	7	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1620	-	-	1614	-	-	825	773	1075	767	773	1082
Stage 1	-	-	-	-	-	-	1015	890	-	895	804	-
Stage 2	-	-	-	-	-	-	866	804	-	925	890	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1620	-	-	1614	-	-	760	747	1075	638	747	1082
Mov Cap-2 Maneuver	-	-	-	-	-	-	760	747	-	638	747	-
Stage 1	-	-	-	-	-	-	1015	890	-	895	777	-
Stage 2	-	-	-	-	-	-	779	777	-	780	890	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	0		7		10.4		10.2	
HCM LOS					B		B	

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	824	1620	-	-	1614	-	-	747
HCM Lane V/C Ratio	0.191	-	-	-	0.034	-	-	0.073
HCM Control Delay (s)	10.4	0	-	-	7.3	0	-	10.2
HCM Lane LOS	B	A	-	-	A	A	-	B
HCM 95th %tile Q(veh)	0.7	0	-	-	0.1	-	-	0.2

HCM 6th TWSC
8: Meridian Park Drive & Access A

Total Traffic Volumes
AM Peak Hour - Year 2024

Intersection						
Int Delay, s/veh	0					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	T		T		T	
Traffic Vol, veh/h	0	0	145	0	0	100
Future Vol, veh/h	0	0	145	0	0	100
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	158	0	0	109




Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	267	158	0	0	158
Stage 1	158	-	-	-	-
Stage 2	109	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218
Pot Cap-1 Maneuver	722	887	-	-	1422
Stage 1	871	-	-	-	-
Stage 2	916	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	722	887	-	-	1422
Mov Cap-2 Maneuver	722	-	-	-	-
Stage 1	871	-	-	-	-
Stage 2	916	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	1422	-
HCM Lane V/C Ratio	-	-	-	-
HCM Control Delay (s)	-	-	0	0
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0	0

HCM 6th TWSC
9: Meridian Park Drive & Access B

Total Traffic Volumes
AM Peak Hour - Year 2024

Intersection						
Int Delay, s/veh	4.8					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	80	79	66	117	49	51
Future Vol, veh/h	80	79	66	117	49	51
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	87	86	72	127	53	55

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	297	136	0	0	199
Stage 1	136	-	-	-	-
Stage 2	161	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218
Pot Cap-1 Maneuver	694	913	-	-	1373
Stage 1	890	-	-	-	-
Stage 2	868	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	666	913	-	-	1373
Mov Cap-2 Maneuver	666	-	-	-	-
Stage 1	890	-	-	-	-
Stage 2	833	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11	0	3.8
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	769	1373
HCM Lane V/C Ratio	-	-	0.225	0.039
HCM Control Delay (s)	-	-	11	7.7
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.9	0.1

HCM 6th TWSC
 10: Meridian Park Drive & Access C

Total Traffic Volumes
 AM Peak Hour - Year 2024

Intersection						
Int Delay, s/veh	4.2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	T		T		T	
Traffic Vol, veh/h	92	58	125	105	45	86
Future Vol, veh/h	92	58	125	105	45	86
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	100	63	136	114	49	93

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	384	193	0	0	250
Stage 1	193	-	-	-	-
Stage 2	191	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218
Pot Cap-1 Maneuver	619	849	-	-	1316
Stage 1	840	-	-	-	-
Stage 2	841	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	595	849	-	-	1316
Mov Cap-2 Maneuver	595	-	-	-	-
Stage 1	840	-	-	-	-
Stage 2	808	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.1	0	2.7
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	673	1316
HCM Lane V/C Ratio	-	-	0.242	0.037
HCM Control Delay (s)	-	-	12.1	7.8
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.9	0.1

Timings
1: Meridian Road & E Woodmen Road

Total Traffic Volumes
PM Peak Hour - Year 2024

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	733	473	166	116	393	198	233	767	110	216	532	452
Future Volume (vph)	733	473	166	116	393	198	233	767	110	216	532	452
Satd. Flow (prot)	3433	3539	1583	3433	3539	1583	3433	3539	1583	3433	3539	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	3539	1583	3433	3539	1583	3433	3539	1583	3433	3539	1583
Satd. Flow (RTOR)			314			250			314			491
Lane Group Flow (vph)	797	514	180	126	427	215	253	834	120	235	578	491
Turn Type	Prot	NA	Free	Prot	NA	Perm	Prot	NA	Free	Prot	NA	Free
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			Free			8			Free			Free
Detector Phase	7	4		3	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	15.0	15.0	5.0	15.0		5.0	15.0	
Minimum Split (s)	12.5	22.0		12.5	22.0	22.0	13.5	22.0		13.5	22.0	
Total Split (s)	38.0	37.0		26.0	25.0	25.0	18.0	39.0		18.0	39.0	
Total Split (%)	31.7%	30.8%		21.7%	20.8%	20.8%	15.0%	32.5%		15.0%	32.5%	
Yellow Time (s)	4.0	5.0		4.0	5.0	5.0	5.0	5.0		5.0	5.0	
All-Red Time (s)	3.5	2.0		3.5	2.0	2.0	3.5	2.0		3.5	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	7.5	7.0		7.5	7.0	7.0	8.5	7.0		8.5	7.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None	None	None	C-Max		None	C-Max	
Act Effct Green (s)	29.9	37.5	120.0	9.8	17.4	17.4	10.0	32.9	120.0	9.7	32.7	120.0
Actuated g/C Ratio	0.25	0.31	1.00	0.08	0.14	0.14	0.08	0.27	1.00	0.08	0.27	1.00
v/c Ratio	0.93	0.46	0.11	0.45	0.83	0.49	0.88	0.86	0.08	0.85	0.60	0.31
Control Delay	62.4	34.9	0.1	57.3	64.6	6.9	85.3	51.8	0.1	65.9	45.4	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	62.4	34.9	0.1	57.3	64.6	6.9	85.3	51.8	0.1	65.9	45.4	0.2
LOS	E	C	A	E	E	A	F	D	A	E	D	A
Approach Delay		45.4			47.3			53.7			32.1	
Approach LOS		D			D			D			C	
Queue Length 50th (ft)	310	165	0	48	170	0	102	327	0	97	220	0
Queue Length 95th (ft)	#423	225	0	78	#243	43	#182	#435	0	m#121	m236	m0
Internal Link Dist (ft)		1105			882			544			1159	
Turn Bay Length (ft)	720			440			420			460		460
Base Capacity (vph)	872	1106	1583	529	530	449	286	971	1583	278	963	1583
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.91	0.46	0.11	0.24	0.81	0.48	0.88	0.86	0.08	0.85	0.60	0.31

Intersection Summary











Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 37 (31%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 100
 Control Type: Actuated-Coordinated

Timings
 1: Meridian Road & E Woodmen Road

Total Traffic Volumes
 PM Peak Hour - Year 2024

Maximum v/c Ratio: 0.93
 Intersection Signal Delay: 44.2 Intersection LOS: D
 Intersection Capacity Utilization 85.4% ICU Level of Service E
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Meridian Road & E Woodmen Road

 Ø1	 Ø2 (R)		 Ø3	 Ø4
18 s	39 s		26 s	37 s
 Ø5	 Ø6 (R)		 Ø7	 Ø8
18 s	39 s		38 s	25 s

Timings
2: Meridian Road & Eastonville Road

Total Traffic Volumes
PM Peak Hour - Year 2024

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	260	478	545	32	100	138	356	1208	120	85	833	110
Future Volume (vph)	260	478	545	32	100	138	356	1208	120	85	833	110
Satd. Flow (prot)	3433	1863	1583	1770	1863	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.529			0.215			0.150			0.090		
Satd. Flow (perm)	1912	1863	1583	400	1863	1583	279	3539	1583	168	3539	1583
Satd. Flow (RTOR)			196			186			177			177
Lane Group Flow (vph)	283	520	592	35	109	150	387	1313	130	92	905	120
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	8.0	8.0	5.0	8.0	8.0	5.0	15.0	15.0	5.0	15.0	15.0
Minimum Split (s)	12.5	14.5	14.5	12.5	14.5	14.5	12.5	22.5	22.5	13.5	22.5	22.5
Total Split (s)	18.0	22.0	22.0	18.0	22.0	22.0	25.0	62.0	62.0	18.0	55.0	55.0
Total Split (%)	15.0%	18.3%	18.3%	15.0%	18.3%	18.3%	20.8%	51.7%	51.7%	15.0%	45.8%	45.8%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	5.5	5.5	5.0	5.5	5.5
All-Red Time (s)	3.5	2.5	2.5	3.5	2.5	2.5	3.5	2.0	2.0	3.5	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.5	6.5	6.5	7.5	6.5	6.5	7.5	7.5	7.5	8.5	7.5	7.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Act Effct Green (s)	29.4	24.1	24.1	21.9	15.6	15.6	72.4	56.0	56.0	54.5	47.5	47.5
Actuated g/C Ratio	0.24	0.20	0.20	0.18	0.13	0.13	0.60	0.47	0.47	0.45	0.40	0.40
v/c Ratio	0.47	1.39	1.25	0.22	0.45	0.41	1.00	0.80	0.16	0.50	0.65	0.16
Control Delay	38.0	229.6	156.6	36.7	54.9	6.5	66.7	11.2	0.8	29.5	48.3	12.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	38.0	229.6	156.6	36.7	54.9	6.5	66.7	11.2	0.8	29.5	48.3	12.2
LOS	D	F	F	D	D	A	E	B	A	C	D	B
Approach Delay		159.7			28.0			22.2			42.9	
Approach LOS		F			C			C			D	
Queue Length 50th (ft)	90	~603	~488	20	79	0	~160	303	4	48	385	17
Queue Length 95th (ft)	129	#845	#733	47	139	34	m#296	m355	m6	86	455	59
Internal Link Dist (ft)		333			570			1159			643	
Turn Bay Length (ft)	100		100	100		100	100		400	375		400
Base Capacity (vph)	600	373	474	203	242	367	386	1651	833	205	1400	733
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.47	1.39	1.25	0.17	0.45	0.41	1.00	0.80	0.16	0.45	0.65	0.16

Intersection Summary









Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 89 (74%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 130
 Control Type: Actuated-Coordinated

Timings
 2: Meridian Road & Eastonville Road

Total Traffic Volumes
 PM Peak Hour - Year 2024

Maximum v/c Ratio: 1.39
 Intersection Signal Delay: 68.9 Intersection LOS: E
 Intersection Capacity Utilization 87.3% ICU Level of Service E
 Analysis Period (min) 15
 ~ Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: Meridian Road & Eastonville Road

 Ø1	 Ø2 (R)	 Ø3	 Ø4
18 s	62 s	18 s	22 s
 Ø5	 Ø6 (R)	 Ø7	 Ø8
25 s	55 s	18 s	22 s

Timings
3: Meridian Road & Bent Grass Meadows Drive

Total Traffic Volumes
PM Peak Hour - Year 2024



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	150	75	64	1644	926	129
Future Volume (vph)	150	75	64	1644	926	129
Satd. Flow (prot)	3433	1583	1770	3539	3539	1583
Flt Permitted	0.950		0.228			
Satd. Flow (perm)	3433	1583	425	3539	3539	1583
Satd. Flow (RTOR)		82				140
Lane Group Flow (vph)	163	82	70	1787	1007	140
Turn Type	Prot	Perm	pm+pt	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases		4	2			6
Detector Phase	4	4	5	2	6	6
Switch Phase						
Minimum Initial (s)	8.0	8.0	5.0	15.0	15.0	15.0
Minimum Split (s)	15.5	15.5	13.5	22.5	22.5	22.5
Total Split (s)	27.0	27.0	20.0	93.0	73.0	73.0
Total Split (%)	22.5%	22.5%	16.7%	77.5%	60.8%	60.8%
Yellow Time (s)	4.0	4.0	5.0	5.5	5.5	5.5
All-Red Time (s)	3.5	3.5	3.5	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.5	7.5	8.5	7.5	7.5	7.5
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Recall Mode	None	None	None	C-Max	C-Max	C-Max
Act Effct Green (s)	11.0	11.0	93.0	94.0	81.7	81.7
Actuated g/C Ratio	0.09	0.09	0.78	0.78	0.68	0.68
v/c Ratio	0.52	0.37	0.17	0.65	0.42	0.12
Control Delay	57.5	15.5	1.4	1.7	10.2	1.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	57.5	15.5	1.4	1.7	10.2	1.7
LOS	E	B	A	A	B	A
Approach Delay	43.4			1.7	9.1	
Approach LOS	D			A	A	
Queue Length 50th (ft)	62	0	2	27	180	0
Queue Length 95th (ft)	96	48	m3	31	250	24
Internal Link Dist (ft)	333			1273	472	
Turn Bay Length (ft)	160		700			330
Base Capacity (vph)	557	325	458	2770	2408	1122
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.29	0.25	0.15	0.65	0.42	0.12

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 28 (23%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 60
 Control Type: Actuated-Coordinated

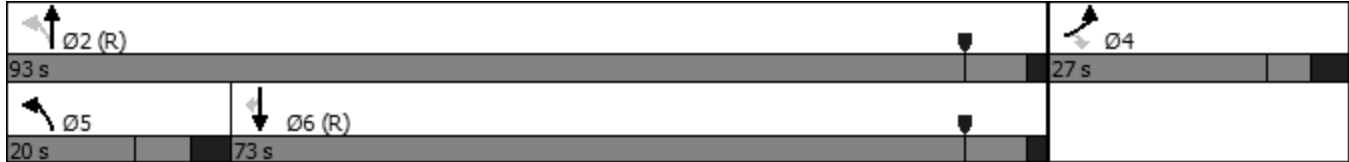
Timings
3: Meridian Road & Bent Grass Meadows Drive

Total Traffic Volumes
 PM Peak Hour - Year 2024

Maximum v/c Ratio: 0.65	
Intersection Signal Delay: 7.5	Intersection LOS: A
Intersection Capacity Utilization 64.6%	ICU Level of Service C
Analysis Period (min) 15	

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: Meridian Road & Bent Grass Meadows Drive



HCM 6th TWSC
4: Meridian Road & Owl Place

Total Traffic Volumes
PM Peak Hour - Year 2024

Intersection						
Int Delay, s/veh	0.2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↑↑	↑↑	↗
Traffic Vol, veh/h	0	59	0	1647	969	45
Future Vol, veh/h	0	59	0	1647	969	45
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	64	0	1790	1053	49

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	-	527	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	6.94	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	3.32	-
Pot Cap-1 Maneuver	0	*700	0
Stage 1	0	-	0
Stage 2	0	-	0
Platoon blocked, %		1	-
Mov Cap-1 Maneuver	-	*700	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.7	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	700	-	-
HCM Lane V/C Ratio	-	0.092	-	-
HCM Control Delay (s)	-	10.7	-	-
HCM Lane LOS	-	B	-	-
HCM 95th %tile Q(veh)	-	0.3	-	-

Notes
~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

HCM 6th TWSC
5: Meridian Park Drive & Bent Grass Meadows Drive

Total Traffic Volumes
PM Peak Hour - Year 2024

Intersection						
Int Delay, s/veh	6.5					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗	↘	↑	↘	
Traffic Vol, veh/h	68	24	131	66	25	196
Future Vol, veh/h	68	24	131	66	25	196
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	150	195	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	74	26	142	72	27	213

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	100	0	430 74
Stage 1	-	-	-	-	74 -
Stage 2	-	-	-	-	356 -
Critical Hdwy	-	-	4.12	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	-	-	2.218	-	3.518 3.318
Pot Cap-1 Maneuver	-	-	1493	-	582 988
Stage 1	-	-	-	-	949 -
Stage 2	-	-	-	-	709 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1493	-	527 988
Mov Cap-2 Maneuver	-	-	-	-	527 -
Stage 1	-	-	-	-	949 -
Stage 2	-	-	-	-	642 -

Approach	EB	WB	NB
HCM Control Delay, s	0	5.1	10.5
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	899	-	-	1493	-
HCM Lane V/C Ratio	0.267	-	-	0.095	-
HCM Control Delay (s)	10.5	-	-	7.7	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	1.1	-	-	0.3	-

HCM 6th Roundabout
 6: Falcon Market Place/Meridian Park Drive & Eastonville Road

Total Traffic Volumes
 PM Peak Hour - Year 2024

Intersection			
Intersection Delay, s/veh	7.2		
Intersection LOS	A		
Approach	WB	NB	SB
Entry Lanes	1	1	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	615	508	163
Demand Flow Rate, veh/h	628	518	166
Vehicles Circulating, veh/h	0	166	386
Vehicles Exiting, veh/h	684	386	242
Ped Vol Crossing Leg, #/h	0	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	7.1	7.9	5.7
Approach LOS	A	A	A
Lane	Left	Left	Left
Designated Moves	LR	TR	LT
Assumed Moves	LR	TR	LT
RT Channelized			
Lane Util	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976
Entry Flow, veh/h	628	518	166
Cap Entry Lane, veh/h	1380	1165	931
Entry HV Adj Factor	0.979	0.981	0.982
Flow Entry, veh/h	615	508	163
Cap Entry, veh/h	1351	1142	914
V/C Ratio	0.455	0.445	0.178
Control Delay, s/veh	7.1	7.9	5.7
LOS	A	A	A
95th %tile Queue, veh	2	2	1

HCM 6th TWSC
7: Meridian Park Drive & Owl Place

Total Traffic Volumes
PM Peak Hour - Year 2024

Intersection												
Int Delay, s/veh	9.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↕			↕			↕			↕		
Traffic Vol, veh/h	0	7	0	41	4	0	11	91	52	0	51	0
Future Vol, veh/h	0	7	0	41	4	0	11	91	52	0	51	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	8	0	45	4	0	12	99	57	0	55	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	4	0	0	8	0	0	130	102	8	180	102	4
Stage 1	-	-	-	-	-	-	8	8	-	94	94	-
Stage 2	-	-	-	-	-	-	122	94	-	86	8	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1618	-	-	1612	-	-	843	788	1074	782	788	1080
Stage 1	-	-	-	-	-	-	1013	889	-	913	817	-
Stage 2	-	-	-	-	-	-	882	817	-	922	889	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1618	-	-	1612	-	-	780	766	1074	654	766	1080
Mov Cap-2 Maneuver	-	-	-	-	-	-	780	766	-	654	766	-
Stage 1	-	-	-	-	-	-	1013	889	-	913	794	-
Stage 2	-	-	-	-	-	-	797	794	-	776	889	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			6.6			10.3			10.1		
HCM LOS							B			B		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	849	1618	-	-	1612	-	-	766
HCM Lane V/C Ratio	0.197	-	-	-	0.028	-	-	0.072
HCM Control Delay (s)	10.3	0	-	-	7.3	0	-	10.1
HCM Lane LOS	B	A	-	-	A	A	-	B
HCM 95th %tile Q(veh)	0.7	0	-	-	0.1	-	-	0.2

HCM 6th TWSC
8: Meridian Park Drive & Access A

Total Traffic Volumes
PM Peak Hour - Year 2024

Intersection						
Int Delay, s/veh	1.7					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	T		T		T	
Traffic Vol, veh/h	4	35	132	22	17	75
Future Vol, veh/h	4	35	132	22	17	75
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	4	38	143	24	18	82

Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	273	155	0	0	167	0
Stage 1	155	-	-	-	-	-
Stage 2	118	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	716	891	-	-	1411	-
Stage 1	873	-	-	-	-	-
Stage 2	907	-	-	-	-	-
Platoon blocked, %			-	-	-	-
Mov Cap-1 Maneuver	707	891	-	-	1411	-
Mov Cap-2 Maneuver	707	-	-	-	-	-
Stage 1	873	-	-	-	-	-
Stage 2	895	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.4	0	1.4
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	868	1411
HCM Lane V/C Ratio	-	-	0.049	0.013
HCM Control Delay (s)	-	-	9.4	7.6
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0.2	0

HCM 6th TWSC
9: Meridian Park Drive & Access B

Total Traffic Volumes
PM Peak Hour - Year 2024

Intersection						
Int Delay, s/veh	3.3					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	T		T		T	
Traffic Vol, veh/h	47	46	108	72	26	53
Future Vol, veh/h	47	46	108	72	26	53
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	51	50	117	78	28	58

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	270	156	0	0	195
Stage 1	156	-	-	-	-
Stage 2	114	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218
Pot Cap-1 Maneuver	719	890	-	-	1378
Stage 1	872	-	-	-	-
Stage 2	911	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	704	890	-	-	1378
Mov Cap-2 Maneuver	704	-	-	-	-
Stage 1	872	-	-	-	-
Stage 2	892	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.3	0	2.5
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	785	1378
HCM Lane V/C Ratio	-	-	0.129	0.021
HCM Control Delay (s)	-	-	10.3	7.7
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.4	0.1

HCM 6th TWSC
 10: Meridian Park Drive & Access C

Total Traffic Volumes
 PM Peak Hour - Year 2024

Intersection						
Int Delay, s/veh	4.2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	T		T		T	
Traffic Vol, veh/h	90	54	126	105	40	60
Future Vol, veh/h	90	54	126	105	40	60
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	98	59	137	114	43	65

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	345	194	0	0	251
Stage 1	194	-	-	-	-
Stage 2	151	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218
Pot Cap-1 Maneuver	652	847	-	-	1314
Stage 1	839	-	-	-	-
Stage 2	877	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	630	847	-	-	1314
Mov Cap-2 Maneuver	630	-	-	-	-
Stage 1	839	-	-	-	-
Stage 2	847	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.7	0	3.1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	697	1314
HCM Lane V/C Ratio	-	-	0.225	0.033
HCM Control Delay (s)	-	-	11.7	7.8
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.9	0.1

Timings
1: Meridian Road & E Woodmen Road

Total Traffic Volumes
AM Peak Hour - Year 2040

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	393	339	176	89	591	150	237	376	26	159	835	869
Future Volume (vph)	393	339	176	89	591	150	237	376	26	159	835	869
Satd. Flow (prot)	3433	3539	1583	3433	3539	1583	3433	3539	1583	3433	3539	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	3539	1583	3433	3539	1583	3433	3539	1583	3433	3539	1583
Satd. Flow (RTOR)			314			250			314			628
Lane Group Flow (vph)	427	368	191	97	642	163	258	409	28	173	908	945
Turn Type	Prot	NA	Free	Prot	NA	Perm	Prot	NA	Free	Prot	NA	Free
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			Free			8			Free			Free
Detector Phase	7	4		3	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	15.0	15.0	5.0	15.0		5.0	15.0	
Minimum Split (s)	12.5	22.0		12.5	22.0	22.0	13.5	22.0		13.5	22.0	
Total Split (s)	25.2	42.4		14.8	32.0	32.0	20.4	44.5		18.3	42.4	
Total Split (%)	21.0%	35.3%		12.3%	26.7%	26.7%	17.0%	37.1%		15.3%	35.3%	
Yellow Time (s)	4.0	5.0		4.0	5.0	5.0	5.0	5.0		5.0	5.0	
All-Red Time (s)	3.5	2.0		3.5	2.0	2.0	3.5	2.0		3.5	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	7.5	7.0		7.5	7.0	7.0	8.5	7.0		8.5	7.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None	None	None	C-Max		None	C-Max	
Act Effct Green (s)	17.3	34.5	120.0	7.1	24.3	24.3	11.7	38.9	120.0	9.5	36.7	120.0
Actuated g/C Ratio	0.14	0.29	1.00	0.06	0.20	0.20	0.10	0.32	1.00	0.08	0.31	1.00
v/c Ratio	0.86	0.36	0.12	0.48	0.90	0.31	0.77	0.36	0.02	0.64	0.84	0.60
Control Delay	68.2	35.0	0.2	62.7	62.8	1.7	69.2	32.5	0.0	49.6	56.2	1.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	68.2	35.0	0.2	62.7	62.8	1.7	69.2	32.5	0.0	49.6	56.2	1.3
LOS	E	C	A	E	E	A	E	C	A	D	E	A
Approach Delay		42.6			51.8			44.8			30.0	
Approach LOS		D			D			D			C	
Queue Length 50th (ft)	168	117	0	38	255	0	102	129	0	71	344	0
Queue Length 95th (ft)	#248	162	0	67	#351	0	#160	175	0	m76	m364	m0
Internal Link Dist (ft)		1105			882			544			1159	
Turn Bay Length (ft)	720			440			420			460		460
Base Capacity (vph)	506	1044	1583	208	737	527	340	1146	1583	280	1083	1583
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.84	0.35	0.12	0.47	0.87	0.31	0.76	0.36	0.02	0.62	0.84	0.60

Intersection Summary









Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 90
 Control Type: Actuated-Coordinated

Timings
 1: Meridian Road & E Woodmen Road

Total Traffic Volumes
 AM Peak Hour - Year 2040




























Maximum v/c Ratio: 0.90
 Intersection Signal Delay: 39.2 Intersection LOS: D
 Intersection Capacity Utilization 82.4% ICU Level of Service E
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Meridian Road & E Woodmen Road

 Ø1	 Ø2 (R)	 Ø3	 Ø4
18.3 s	44.5 s	14.8 s	42.4 s
 Ø5	 Ø6 (R)	 Ø7	 Ø8
20.4 s	42.4 s	25.2 s	32 s

Timings
2: Meridian Road & Eastonville Road

Total Traffic Volumes
AM Peak Hour - Year 2040

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 							 			 	
Traffic Volume (vph)	134	61	197	144	71	54	276	573	60	165	1855	108
Future Volume (vph)	134	61	197	144	71	54	276	573	60	165	1855	108
Satd. Flow (prot)	3433	1863	1583	1770	1863	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.585			0.714			0.061			0.363		
Satd. Flow (perm)	2114	1863	1583	1330	1863	1583	114	3539	1583	676	3539	1583
Satd. Flow (RTOR)			177			177			168			168
Lane Group Flow (vph)	146	66	214	157	77	59	300	623	65	179	2016	117
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	8.0	8.0	5.0	8.0	8.0	5.0	15.0	15.0	5.0	15.0	15.0
Minimum Split (s)	12.5	14.5	14.5	12.5	14.5	14.5	12.5	22.5	22.5	13.5	22.5	22.5
Total Split (s)	12.5	14.5	14.5	14.1	16.1	16.1	13.3	73.4	73.4	18.0	78.1	78.1
Total Split (%)	10.4%	12.1%	12.1%	11.8%	13.4%	13.4%	11.1%	61.2%	61.2%	15.0%	65.1%	65.1%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	5.5	5.5	5.0	5.5	5.5
All-Red Time (s)	3.5	2.5	2.5	3.5	2.5	2.5	3.5	2.0	2.0	3.5	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.5	6.5	6.5	7.5	6.5	6.5	7.5	7.5	7.5	8.5	7.5	7.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Act Effct Green (s)	13.8	8.0	8.0	13.5	9.3	9.3	72.3	66.5	66.5	78.5	70.6	70.6
Actuated g/C Ratio	0.12	0.07	0.07	0.11	0.08	0.08	0.60	0.55	0.55	0.65	0.59	0.59
v/c Ratio	0.44	0.53	0.79	0.91	0.53	0.21	2.03	0.32	0.07	0.34	0.97	0.12
Control Delay	48.4	70.3	34.3	96.7	67.2	1.6	504.2	2.9	0.1	11.8	49.0	3.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	48.4	70.3	34.3	96.7	67.2	1.6	504.2	2.9	0.1	11.8	49.0	3.3
LOS	D	E	C	F	E	A	F	A	A	B	D	A
Approach Delay		44.7			69.8			154.9			43.9	
Approach LOS		D			E			F			D	
Queue Length 50th (ft)	50	50	28	111	58	0	~315	18	1	72	830	5
Queue Length 95th (ft)	81	#99	#147	#227	110	0	m#477	m22	m0	m75	#953	m7
Internal Link Dist (ft)		323			570			1159			643	
Turn Bay Length (ft)	100		100	100		100	100		400	375		400
Base Capacity (vph)	333	124	270	173	149	289	148	1961	952	532	2082	1000
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.44	0.53	0.79	0.91	0.52	0.20	2.03	0.32	0.07	0.34	0.97	0.12

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 45 (38%), Referenced to phase 2:NBT and 6:SBTL, Start of Yellow

Natural Cycle: 150











Control Type: Actuated-Coordinated

Timings
 2: Meridian Road & Eastonville Road

Total Traffic Volumes
 AM Peak Hour - Year 2040

Maximum v/c Ratio: 2.03
 Intersection Signal Delay: 73.1 Intersection LOS: E
 Intersection Capacity Utilization 99.1% ICU Level of Service F
 Analysis Period (min) 15
 ~ Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: Meridian Road & Eastonville Road

 Ø1	 Ø2 (R)		 Ø3	 Ø4
18 s	73.4 s		14.1 s	14.5 s
 Ø5	 Ø6 (R)		 Ø7	 Ø8
13.3 s	78.1 s		12.5 s	16.1 s

Timings
3: Meridian Road & Bent Grass Meadows Drive

Total Traffic Volumes
AM Peak Hour - Year 2040



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	173	129	98	656	1980	192
Future Volume (vph)	173	129	98	656	1980	192
Satd. Flow (prot)	3433	1583	1770	3539	3539	1583
Flt Permitted	0.950		0.045			
Satd. Flow (perm)	3433	1583	84	3539	3539	1583
Satd. Flow (RTOR)		101				209
Lane Group Flow (vph)	188	140	107	713	2152	209
Turn Type	Prot	Perm	pm+pt	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases		4	2			6
Detector Phase	4	4	5	2	6	6
Switch Phase						
Minimum Initial (s)	8.0	8.0	5.0	15.0	15.0	15.0
Minimum Split (s)	15.5	15.5	13.5	22.5	22.5	22.5
Total Split (s)	16.8	16.8	15.6	103.2	87.6	87.6
Total Split (%)	14.0%	14.0%	13.0%	86.0%	73.0%	73.0%
Yellow Time (s)	4.0	4.0	5.0	5.5	5.5	5.5
All-Red Time (s)	3.5	3.5	3.5	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.5	7.5	8.5	7.5	7.5	7.5
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Recall Mode	None	None	None	C-Max	C-Max	C-Max
Act Effct Green (s)	9.2	9.2	94.8	95.8	80.5	80.5
Actuated g/C Ratio	0.08	0.08	0.79	0.80	0.67	0.67
v/c Ratio	0.72	0.65	0.66	0.25	0.91	0.18
Control Delay	69.9	33.2	51.4	0.8	23.8	1.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	69.9	33.2	51.4	0.8	23.8	1.3
LOS	E	C	D	A	C	A
Approach Delay	54.3			7.4	21.8	
Approach LOS	D			A	C	
Queue Length 50th (ft)	74	29	32	8	680	0
Queue Length 95th (ft)	#123	#106	#104	19	827	24
Internal Link Dist (ft)	323			1273	472	
Turn Bay Length (ft)	160		700			330
Base Capacity (vph)	266	215	166	2826	2373	1130
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.71	0.65	0.64	0.25	0.91	0.18

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 95 (79%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 90
 Control Type: Actuated-Coordinated

Timings
3: Meridian Road & Bent Grass Meadows Drive

Total Traffic Volumes
 AM Peak Hour - Year 2040

Maximum v/c Ratio: 0.91
 Intersection Signal Delay: 21.5 Intersection LOS: C
 Intersection Capacity Utilization 86.4% ICU Level of Service E
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 3: Meridian Road & Bent Grass Meadows Drive

Ø2 (R) 103.2 s		Ø4 16.8 s	
Ø5 15.6 s	Ø6 (R) 87.6 s		

HCM 6th TWSC
4: Meridian Road & Owl Place

Provide closed option analyses
for the other intersections

Total Traffic Volumes
AM Peak Hour - Year 2040

Per previous responses, analysis updated to
considered closure of Owl Place intersection.

Intersection						
Int Delay, s/veh	0.5					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↑↑	↑↑	↗
Traffic Vol, veh/h	0	53	0	817	2074	53
Future Vol, veh/h	0	53	0	817	2074	53
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	58	0	888	2254	58

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	-	1127	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	6.94	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	3.32	-
Pot Cap-1 Maneuver	0	*219	0
Stage 1	0	-	0
Stage 2	0	-	0
Platoon blocked, %		1	-
Mov Cap-1 Maneuver	-	*219	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	27.2	0	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	219	-	-
HCM Lane V/C Ratio	-	0.263	-	-
HCM Control Delay (s)	-	27.2	-	-
HCM Lane LOS	-	D	-	-
HCM 95th %tile Q(veh)	-	1	-	-

Notes
 ~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

HCM 6th TWSC
5: Meridian Park Drive & Bent Grass Meadows Drive

Total Traffic Volumes
AM Peak Hour - Year 2040

Intersection						
Int Delay, s/veh	6.7					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗	↘	↑	↘	
Traffic Vol, veh/h	84	27	198	92	25	223
Future Vol, veh/h	84	27	198	92	25	223
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	150	195	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	91	29	215	100	27	242

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	120	0	621 91
Stage 1	-	-	-	-	91 -
Stage 2	-	-	-	-	530 -
Critical Hdwy	-	-	4.12	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	-	-	2.218	-	3.518 3.318
Pot Cap-1 Maneuver	-	-	1468	-	451 967
Stage 1	-	-	-	-	933 -
Stage 2	-	-	-	-	590 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1468	-	385 967
Mov Cap-2 Maneuver	-	-	-	-	385 -
Stage 1	-	-	-	-	933 -
Stage 2	-	-	-	-	504 -

Approach	EB	WB	NB
HCM Control Delay, s	0	5.4	11.3
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	839	-	-	1468	-
HCM Lane V/C Ratio	0.321	-	-	0.147	-
HCM Control Delay (s)	11.3	-	-	7.9	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	1.4	-	-	0.5	-

HCM 6th Roundabout
 6: Falcon Market Place/Meridian Park Drive & Eastonville Road

Total Traffic Volumes
 AM Peak Hour - Year 2040

Intersection			
Intersection Delay, s/veh	5.5		
Intersection LOS	A		
Approach	WB	NB	SB
Entry Lanes	1	1	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	494	189	193
Demand Flow Rate, veh/h	504	193	197
Vehicles Circulating, veh/h	0	197	246
Vehicles Exiting, veh/h	390	246	258
Ped Vol Crossing Leg, #/h	0	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	6.0	4.8	5.1
Approach LOS	A	A	A
Lane	Left	Left	Left
Designated Moves	LR	TR	LT
Assumed Moves	LR	TR	LT
RT Channelized			
Lane Util	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976
Entry Flow, veh/h	504	193	197
Cap Entry Lane, veh/h	1380	1129	1074
Entry HV Adj Factor	0.980	0.979	0.980
Flow Entry, veh/h	494	189	193
Cap Entry, veh/h	1352	1105	1052
V/C Ratio	0.365	0.171	0.183
Control Delay, s/veh	6.0	4.8	5.1
LOS	A	A	A
95th %tile Queue, veh	2	1	1

HCM 6th TWSC
7: Meridian Park Drive & Owl Place

Total Traffic Volumes
AM Peak Hour - Year 2040

Intersection												
Int Delay, s/veh	9.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↕			↕			↕			↕		
Traffic Vol, veh/h	0	9	0	50	3	0	8	96	44	0	50	0
Future Vol, veh/h	0	9	0	50	3	0	8	96	44	0	50	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	10	0	54	3	0	9	104	48	0	54	0

Major/Minor	Major1		Major2		Minor1		Minor2					
Conflicting Flow All	3	0	0	10	0	0	148	121	10	197	121	3
Stage 1	-	-	-	-	-	-	10	10	-	111	111	-
Stage 2	-	-	-	-	-	-	138	111	-	86	10	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1619	-	-	1610	-	-	820	769	1071	762	769	1081
Stage 1	-	-	-	-	-	-	1011	887	-	894	804	-
Stage 2	-	-	-	-	-	-	865	804	-	922	887	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1619	-	-	1610	-	-	754	743	1071	633	743	1081
Mov Cap-2 Maneuver	-	-	-	-	-	-	754	743	-	633	743	-
Stage 1	-	-	-	-	-	-	1011	887	-	894	777	-
Stage 2	-	-	-	-	-	-	777	777	-	777	887	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	0		6.9		10.5		10.2	
HCM LOS					B		B	

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	818	1619	-	-	1610	-	-	743
HCM Lane V/C Ratio	0.197	-	-	-	0.034	-	-	0.073
HCM Control Delay (s)	10.5	0	-	-	7.3	0	-	10.2
HCM Lane LOS	B	A	-	-	A	A	-	B
HCM 95th %tile Q(veh)	0.7	0	-	-	0.1	-	-	0.2

HCM 6th TWSC
8: Meridian Park Drive & Access A

Total Traffic Volumes
AM Peak Hour - Year 2040

Intersection						
Int Delay, s/veh	0					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	T		T		T	
Traffic Vol, veh/h	0	0	148	0	0	100
Future Vol, veh/h	0	0	148	0	0	100
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	161	0	0	109

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	270	161	0	0	161
Stage 1	161	-	-	-	-
Stage 2	109	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218
Pot Cap-1 Maneuver	719	884	-	-	1418
Stage 1	868	-	-	-	-
Stage 2	916	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	719	884	-	-	1418
Mov Cap-2 Maneuver	719	-	-	-	-
Stage 1	868	-	-	-	-
Stage 2	916	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	1418	-
HCM Lane V/C Ratio	-	-	-	-
HCM Control Delay (s)	-	-	0	0
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0	0

HCM 6th TWSC
9: Meridian Park Drive & Access B

Total Traffic Volumes
AM Peak Hour - Year 2040

Intersection						
Int Delay, s/veh	4.8					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	T		T		T	
Traffic Vol, veh/h	80	79	69	117	49	51
Future Vol, veh/h	80	79	69	117	49	51
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	87	86	75	127	53	55

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	300	139	0	0	202
Stage 1	139	-	-	-	-
Stage 2	161	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218
Pot Cap-1 Maneuver	691	909	-	-	1370
Stage 1	888	-	-	-	-
Stage 2	868	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	663	909	-	-	1370
Mov Cap-2 Maneuver	663	-	-	-	-
Stage 1	888	-	-	-	-
Stage 2	833	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.1	0	3.8
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	766	1370
HCM Lane V/C Ratio	-	-	0.226	0.039
HCM Control Delay (s)	-	-	11.1	7.7
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.9	0.1

HCM 6th TWSC
 10: Meridian Park Drive & Access C

Total Traffic Volumes
 AM Peak Hour - Year 2040

Intersection						
Int Delay, s/veh	4.2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	T		T		T	
Traffic Vol, veh/h	92	58	128	105	45	86
Future Vol, veh/h	92	58	128	105	45	86
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	100	63	139	114	49	93

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	387	196	0	0	253
Stage 1	196	-	-	-	-
Stage 2	191	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218
Pot Cap-1 Maneuver	616	845	-	-	1312
Stage 1	837	-	-	-	-
Stage 2	841	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	592	845	-	-	1312
Mov Cap-2 Maneuver	592	-	-	-	-
Stage 1	837	-	-	-	-
Stage 2	808	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.1	0	2.7
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	670	1312
HCM Lane V/C Ratio	-	-	0.243	0.037
HCM Control Delay (s)	-	-	12.1	7.8
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	1	0.1

Timings
1: Meridian Road & E Woodmen Road

Total Traffic Volumes
PM Peak Hour - Year 2040

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1042	708	240	168	545	261	308	1072	159	262	709	625
Future Volume (vph)	1042	708	240	168	545	261	308	1072	159	262	709	625
Satd. Flow (prot)	3433	3539	1583	3433	3539	1583	3433	3539	1583	3433	3539	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	3539	1583	3433	3539	1583	3433	3539	1583	3433	3539	1583
Satd. Flow (RTOR)			314			250			314			679
Lane Group Flow (vph)	1133	770	261	183	592	284	335	1165	173	285	771	679
Turn Type	Prot	NA	Free	Prot	NA	Perm	Prot	NA	Free	Prot	NA	Free
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			Free			8			Free			Free
Detector Phase	7	4		3	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	15.0	15.0	5.0	15.0		5.0	15.0	
Minimum Split (s)	12.5	22.0		12.5	22.0	22.0	13.5	22.0		13.5	22.0	
Total Split (s)	38.0	43.1		18.9	24.0	24.0	21.0	42.0		16.0	37.0	
Total Split (%)	31.7%	35.9%		15.8%	20.0%	20.0%	17.5%	35.0%		13.3%	30.8%	
Yellow Time (s)	4.0	5.0		4.0	5.0	5.0	5.0	5.0		5.0	5.0	
All-Red Time (s)	3.5	2.0		3.5	2.0	2.0	3.5	2.0		3.5	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	7.5	7.0		7.5	7.0	7.0	8.5	7.0		8.5	7.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None	None	None	C-Max		None	C-Max	
Act Effct Green (s)	30.5	36.9	120.0	10.6	17.0	17.0	12.5	35.0	120.0	7.5	30.0	120.0
Actuated g/C Ratio	0.25	0.31	1.00	0.09	0.14	0.14	0.10	0.29	1.00	0.06	0.25	1.00
v/c Ratio	1.30	0.71	0.16	0.60	1.18	0.65	0.94	1.13	0.11	1.33	0.87	0.43
Control Delay	180.2	41.3	0.2	61.3	145.4	16.4	87.9	110.0	0.1	210.5	74.7	0.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	180.2	41.3	0.2	61.3	145.4	16.4	87.9	110.0	0.1	210.5	74.7	0.9
LOS	F	D	A	E	F	B	F	F	A	F	E	A
Approach Delay		109.1			96.3			94.2			68.1	
Approach LOS		F			F			F			E	
Queue Length 50th (ft)	~578	280	0	71	~289	23	135	~550	0	~150	331	0
Queue Length 95th (ft)	#710	352	0	109	#406	113	#225	#686	0	#243	#415	0
Internal Link Dist (ft)		1105			882			544			1159	
Turn Bay Length (ft)	720			440			420			460		460
Base Capacity (vph)	872	1087	1583	326	501	438	357	1032	1583	214	884	1583
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.30	0.71	0.16	0.56	1.18	0.65	0.94	1.13	0.11	1.33	0.87	0.43

Intersection Summary









Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 37 (31%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 150
 Control Type: Actuated-Coordinated

Timings
 1: Meridian Road & E Woodmen Road

Total Traffic Volumes
 PM Peak Hour - Year 2040

































Maximum v/c Ratio: 1.33
 Intersection Signal Delay: 92.6 Intersection LOS: F
 Intersection Capacity Utilization 106.5% ICU Level of Service G
 Analysis Period (min) 15
 ~ Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 1: Meridian Road & E Woodmen Road

 Ø1	 Ø2 (R)	 Ø3	 Ø4
16 s	42 s	18.9 s	43.1 s
 Ø5	 Ø6 (R)	 Ø7	 Ø8
21 s	37 s	38 s	24 s

Timings
2: Meridian Road & Eastonville Road

Total Traffic Volumes
PM Peak Hour - Year 2040

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 		 			 		 	 	 	 	 
Traffic Volume (vph)	260	145	212	47	100	200	362	1826	173	123	1188	110
Future Volume (vph)	260	145	212	47	100	200	362	1826	173	123	1188	110
Satd. Flow (prot)	3433	1863	1583	1770	1863	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.592			0.486			0.097			0.067		
Satd. Flow (perm)	2139	1863	1583	905	1863	1583	181	3539	1583	125	3539	1583
Satd. Flow (RTOR)			255			255			188			245
Lane Group Flow (vph)	283	158	230	51	109	217	393	1985	188	134	1291	120
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	8.0	8.0	5.0	8.0	8.0	5.0	15.0	15.0	5.0	15.0	15.0
Minimum Split (s)	12.5	14.5	14.5	12.5	14.5	14.5	12.5	22.5	22.5	13.5	22.5	22.5
Total Split (s)	12.6	16.2	16.2	12.5	16.1	16.1	22.8	76.9	76.9	14.4	68.5	68.5
Total Split (%)	10.5%	13.5%	13.5%	10.4%	13.4%	13.4%	19.0%	64.1%	64.1%	12.0%	57.1%	57.1%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	5.5	5.5	5.0	5.5	5.5
All-Red Time (s)	3.5	2.5	2.5	3.5	2.5	2.5	3.5	2.0	2.0	3.5	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.5	6.5	6.5	7.5	6.5	6.5	7.5	7.5	7.5	8.5	7.5	7.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Act Effct Green (s)	15.0	11.9	11.9	13.3	9.3	9.3	84.1	69.4	69.4	66.2	61.0	61.0
Actuated g/C Ratio	0.12	0.10	0.10	0.11	0.08	0.08	0.70	0.58	0.58	0.55	0.51	0.51
v/c Ratio	0.88	0.86	0.59	0.38	0.75	0.61	1.18	0.97	0.19	0.88	0.72	0.13
Control Delay	76.0	91.9	11.2	50.9	84.7	10.8	125.5	9.9	0.1	63.6	44.4	3.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	76.0	91.9	11.2	50.9	84.7	10.8	125.5	9.9	0.1	63.6	44.4	3.9
LOS	E	F	B	D	F	B	F	A	A	E	D	A
Approach Delay		57.5			37.6			26.9			42.9	
Approach LOS		E			D			C			D	
Queue Length 50th (ft)	102	~133	0	34	84	0	~281	277	1	62	552	5
Queue Length 95th (ft)	#188	#272	57	71	#175	45	m#206	m106	m1	#172	628	31
Internal Link Dist (ft)		323			570			1159			643	
Turn Bay Length (ft)	100		100	100		100	100		400	375		400
Base Capacity (vph)	321	184	387	136	149	361	332	2046	994	153	1798	925
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.88	0.86	0.59	0.38	0.73	0.60	1.18	0.97	0.19	0.88	0.72	0.13

Intersection Summary











Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 89 (74%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 120
 Control Type: Actuated-Coordinated

Timings
 2: Meridian Road & Eastonville Road

Total Traffic Volumes
 PM Peak Hour - Year 2040

Maximum v/c Ratio: 1.18
 Intersection Signal Delay: 36.4 Intersection LOS: D
 Intersection Capacity Utilization 95.8% ICU Level of Service F
 Analysis Period (min) 15
 ~ Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: Meridian Road & Eastonville Road

 Ø1	 Ø2 (R)		 Ø3	 Ø4
14.4 s	76.9 s		12.5 s	16.2 s
 Ø5	 Ø6 (R)		 Ø7	 Ø8
22.8 s	68.5 s		12.6 s	16.1 s

Timings
3: Meridian Road & Bent Grass Meadows Drive

Total Traffic Volumes
PM Peak Hour - Year 2040



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	187	108	93	2254	1285	174
Future Volume (vph)	187	108	93	2254	1285	174
Satd. Flow (prot)	3433	1583	1770	3539	3539	1583
Flt Permitted	0.950		0.131			
Satd. Flow (perm)	3433	1583	244	3539	3539	1583
Satd. Flow (RTOR)		117				189
Lane Group Flow (vph)	203	117	101	2450	1397	189
Turn Type	Prot	Perm	pm+pt	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases		4	2			6
Detector Phase	4	4	5	2	6	6
Switch Phase						
Minimum Initial (s)	8.0	8.0	5.0	15.0	15.0	15.0
Minimum Split (s)	15.5	15.5	13.5	22.5	22.5	22.5
Total Split (s)	17.0	17.0	15.4	103.0	87.6	87.6
Total Split (%)	14.2%	14.2%	12.8%	85.8%	73.0%	73.0%
Yellow Time (s)	4.0	4.0	5.0	5.5	5.5	5.5
All-Red Time (s)	3.5	3.5	3.5	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.5	7.5	8.5	7.5	7.5	7.5
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Recall Mode	None	None	None	C-Max	C-Max	C-Max
Act Effct Green (s)	9.4	9.4	94.6	95.6	80.4	80.4
Actuated g/C Ratio	0.08	0.08	0.79	0.80	0.67	0.67
v/c Ratio	0.75	0.50	0.37	0.87	0.59	0.17
Control Delay	72.1	17.3	2.3	10.1	12.1	1.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	72.1	17.3	2.3	10.1	12.1	1.3
LOS	E	B	A	B	B	A
Approach Delay	52.1			9.8	10.8	
Approach LOS	D			A	B	
Queue Length 50th (ft)	80	0	3	925	286	0
Queue Length 95th (ft)	#134	58	m3	m949	345	23
Internal Link Dist (ft)	323			1273	472	
Turn Bay Length (ft)	160		700			330
Base Capacity (vph)	271	233	279	2818	2372	1123
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.75	0.50	0.36	0.87	0.59	0.17

Intersection Summary
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 28 (23%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 90
 Control Type: Actuated-Coordinated

Timings

3: Meridian Road & Bent Grass Meadows Drive

Total Traffic Volumes
PM Peak Hour - Year 2040

Maximum v/c Ratio: 0.87

Intersection Signal Delay: 13.2

Intersection LOS: B

Intersection Capacity Utilization 81.5%

ICU Level of Service D

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: Meridian Road & Bent Grass Meadows Drive

Ø2 (R) 103 s		Ø4 17 s	
Ø5 15.4 s	Ø6 (R) 87.6 s		

HCM 6th TWSC
4: Meridian Road & Owl Place

Provide closed option analyses
for the other intersections

Total Traffic Volumes
PM Peak Hour - Year 2040

Per previous responses, analysis updated to
considered closure of Owl Place intersection.

Intersection						
Int Delay, s/veh	0.2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↑↑	↑↑	↗
Traffic Vol, veh/h	0	63	0	2327	1359	47
Future Vol, veh/h	0	63	0	2327	1359	47
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	68	0	2529	1477	51

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	-	739	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	6.94	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	3.32	-
Pot Cap-1 Maneuver	0	*523	0
Stage 1	0	-	0
Stage 2	0	-	0
Platoon blocked, %		1	-
Mov Cap-1 Maneuver	-	*523	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12.9	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT EBLn1	SBT	SBR
Capacity (veh/h)	- 523	-	-
HCM Lane V/C Ratio	- 0.131	-	-
HCM Control Delay (s)	- 12.9	-	-
HCM Lane LOS	- B	-	-
HCM 95th %tile Q(veh)	- 0.4	-	-

Notes
 ~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

HCM 6th TWSC
5: Meridian Park Drive & Bent Grass Meadows Drive

Total Traffic Volumes
PM Peak Hour - Year 2040

Intersection						
Int Delay, s/veh	6.8					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗	↘	↑	↘	
Traffic Vol, veh/h	98	29	164	95	30	241
Future Vol, veh/h	98	29	164	95	30	241
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	150	195	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	107	32	178	103	33	262

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	139	0	566
Stage 1	-	-	-	-	107
Stage 2	-	-	-	-	459
Critical Hdwy	-	-	4.12	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	-	-	2.218	-	3.518
Pot Cap-1 Maneuver	-	-	1445	-	486
Stage 1	-	-	-	-	917
Stage 2	-	-	-	-	636
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1445	-	426
Mov Cap-2 Maneuver	-	-	-	-	426
Stage 1	-	-	-	-	917
Stage 2	-	-	-	-	558

Approach	EB	WB	NB
HCM Control Delay, s	0	5	11.7
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	834	-	-	1445	-
HCM Lane V/C Ratio	0.353	-	-	0.123	-
HCM Control Delay (s)	11.7	-	-	7.8	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	1.6	-	-	0.4	-

HCM 6th Roundabout
 6: Falcon Market Place/Meridian Park Drive & Eastonville Road

Total Traffic Volumes
 PM Peak Hour - Year 2040

Intersection			
Intersection Delay, s/veh	7.3		
Intersection LOS	A		
Approach	WB	NB	SB
Entry Lanes	1	1	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	621	508	163
Demand Flow Rate, veh/h	634	518	166
Vehicles Circulating, veh/h	0	166	386
Vehicles Exiting, veh/h	684	386	248
Ped Vol Crossing Leg, #/h	0	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	7.2	7.9	5.7
Approach LOS	A	A	A
Lane	Left	Left	Left
Designated Moves	LR	TR	LT
Assumed Moves	LR	TR	LT
RT Channelized			
Lane Util	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976
Entry Flow, veh/h	634	518	166
Cap Entry Lane, veh/h	1380	1165	931
Entry HV Adj Factor	0.979	0.981	0.982
Flow Entry, veh/h	621	508	163
Cap Entry, veh/h	1352	1142	914
V/C Ratio	0.459	0.445	0.178
Control Delay, s/veh	7.2	7.9	5.7
LOS	A	A	A
95th %tile Queue, veh	2	2	1

HCM 6th TWSC
7: Meridian Park Drive & Owl Place

Total Traffic Volumes
PM Peak Hour - Year 2040

Intersection												
Int Delay, s/veh	9.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↕			↕			↕			↕		
Traffic Vol, veh/h	0	11	0	41	6	0	17	91	52	0	51	0
Future Vol, veh/h	0	11	0	41	6	0	17	91	52	0	51	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	12	0	45	7	0	18	99	57	0	55	0

Major/Minor	Major1		Major2		Minor1			Minor2				
Conflicting Flow All	7	0	0	12	0	0	137	109	12	187	109	7
Stage 1	-	-	-	-	-	-	12	12	-	97	97	-
Stage 2	-	-	-	-	-	-	125	97	-	90	12	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1614	-	-	1607	-	-	834	781	1069	774	781	1075
Stage 1	-	-	-	-	-	-	1009	886	-	910	815	-
Stage 2	-	-	-	-	-	-	879	815	-	917	886	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1614	-	-	1607	-	-	771	759	1069	646	759	1075
Mov Cap-2 Maneuver	-	-	-	-	-	-	771	759	-	646	759	-
Stage 1	-	-	-	-	-	-	1009	886	-	910	792	-
Stage 2	-	-	-	-	-	-	795	792	-	772	886	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	6.4	10.4	10.1
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	840	1614	-	-	1607	-	-	759
HCM Lane V/C Ratio	0.207	-	-	-	0.028	-	-	0.073
HCM Control Delay (s)	10.4	0	-	-	7.3	0	-	10.1
HCM Lane LOS	B	A	-	-	A	A	-	B
HCM 95th %tile Q(veh)	0.8	0	-	-	0.1	-	-	0.2

HCM 6th TWSC
8: Meridian Park Drive & Access A

Total Traffic Volumes
PM Peak Hour - Year 2040

Intersection						
Int Delay, s/veh	1.8					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	T		T		T	
Traffic Vol, veh/h	4	35	125	22	17	75
Future Vol, veh/h	4	35	125	22	17	75
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	4	38	136	24	18	82

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	266	148	0	0	160
Stage 1	148	-	-	-	-
Stage 2	118	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218
Pot Cap-1 Maneuver	723	899	-	-	1419
Stage 1	880	-	-	-	-
Stage 2	907	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	714	899	-	-	1419
Mov Cap-2 Maneuver	714	-	-	-	-
Stage 1	880	-	-	-	-
Stage 2	895	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.3	0	1.4
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	876	1419
HCM Lane V/C Ratio	-	-	0.048	0.013
HCM Control Delay (s)	-	-	9.3	7.6
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0.2	0

HCM 6th TWSC
9: Meridian Park Drive & Access B

Total Traffic Volumes
PM Peak Hour - Year 2040

Intersection						
Int Delay, s/veh	3.3					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	T		T		T	
Traffic Vol, veh/h	47	46	101	72	26	53
Future Vol, veh/h	47	46	101	72	26	53
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	51	50	110	78	28	58

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	263	149	0	0	188
Stage 1	149	-	-	-	-
Stage 2	114	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218
Pot Cap-1 Maneuver	726	898	-	-	1386
Stage 1	879	-	-	-	-
Stage 2	911	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	711	898	-	-	1386
Mov Cap-2 Maneuver	711	-	-	-	-
Stage 1	879	-	-	-	-
Stage 2	892	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.2	0	2.5
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	793	1386
HCM Lane V/C Ratio	-	-	0.127	0.02
HCM Control Delay (s)	-	-	10.2	7.7
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.4	0.1

HCM 6th TWSC
 10: Meridian Park Drive & Access C

Total Traffic Volumes
 PM Peak Hour - Year 2040

Intersection						
Int Delay, s/veh	4.2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	T		T		T	
Traffic Vol, veh/h	90	54	119	105	40	60
Future Vol, veh/h	90	54	119	105	40	60
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	98	59	129	114	43	65

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	337	186	0	0	243
Stage 1	186	-	-	-	-
Stage 2	151	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218
Pot Cap-1 Maneuver	658	856	-	-	1323
Stage 1	846	-	-	-	-
Stage 2	877	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	636	856	-	-	1323
Mov Cap-2 Maneuver	636	-	-	-	-
Stage 1	846	-	-	-	-
Stage 2	847	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.6	0	3.1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	704	1323
HCM Lane V/C Ratio	-	-	0.222	0.033
HCM Control Delay (s)	-	-	11.6	7.8
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.8	0.1

APPENDIX D

Meridian Road Widening – Capacity Worksheets

Timings
1: Meridian Road & E Woodmen Road

Total Traffic Volumes
AM Peak Hour - Year 2040

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	393	339	176	89	591	150	237	376	26	159	835	869
Future Volume (vph)	393	339	176	89	591	150	237	376	26	159	835	869
Satd. Flow (prot)	3433	3539	1583	3433	3539	1583	3433	5085	1583	3433	5085	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	3539	1583	3433	3539	1583	3433	5085	1583	3433	5085	1583
Satd. Flow (RTOR)			314			250			314			574
Lane Group Flow (vph)	427	368	191	97	642	163	258	409	28	173	908	945
Turn Type	Prot	NA	Free	Prot	NA	Perm	Prot	NA	Free	Prot	NA	Free
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			Free			8			Free			Free
Detector Phase	7	4		3	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	15.0	15.0	5.0	15.0		5.0	15.0	
Minimum Split (s)	12.5	22.0		12.5	22.0	22.0	13.5	22.0		13.5	22.0	
Total Split (s)	28.0	48.2		14.8	35.0	35.0	22.0	37.4		19.6	35.0	
Total Split (%)	23.3%	40.2%		12.3%	29.2%	29.2%	18.3%	31.2%		16.3%	29.2%	
Yellow Time (s)	4.0	5.0		4.0	5.0	5.0	5.0	5.0		5.0	5.0	
All-Red Time (s)	3.5	2.0		3.5	2.0	2.0	3.5	2.0		3.5	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	7.5	7.0		7.5	7.0	7.0	8.5	7.0		8.5	7.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None	None	None	C-Max		None	C-Max	
Act Effct Green (s)	18.8	37.5	120.0	7.1	25.8	25.8	12.9	35.0	120.0	10.4	32.5	120.0
Actuated g/C Ratio	0.16	0.31	1.00	0.06	0.22	0.22	0.11	0.29	1.00	0.09	0.27	1.00
v/c Ratio	0.79	0.33	0.12	0.48	0.84	0.30	0.70	0.28	0.02	0.58	0.66	0.60
Control Delay	60.1	31.9	0.2	62.7	56.2	1.6	62.5	34.5	0.0	47.1	65.2	8.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	60.1	31.9	0.2	62.7	56.2	1.6	62.5	34.5	0.0	47.1	65.2	8.1
LOS	E	C	A	E	E	A	E	C	A	D	E	A
Approach Delay		38.0			47.1			43.5			37.0	
Approach LOS		D			D			D			D	
Queue Length 50th (ft)	164	110	0	38	247	0	99	93	0	70	274	188
Queue Length 95th (ft)	220	150	0	67	316	0	145	126	0	m87	322	249
Internal Link Dist (ft)		1105			882			544			1159	
Turn Bay Length (ft)	720			440			420			460		460
Base Capacity (vph)	586	1215	1583	208	825	561	390	1485	1583	318	1378	1583
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.73	0.30	0.12	0.47	0.78	0.29	0.66	0.28	0.02	0.54	0.66	0.60

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 90
 Control Type: Actuated-Coordinated

Timings
 1: Meridian Road & E Woodmen Road

Total Traffic Volumes
 AM Peak Hour - Year 2040

Maximum v/c Ratio: 0.84

Intersection Signal Delay: 40.2

Intersection LOS: D









Intersection Capacity Utilization 75.4%

ICU Level of Service D

Analysis Period (min) 15






























m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Meridian Road & E Woodmen Road

 Ø1	 Ø2 (R)	 Ø3	 Ø4
19.6 s	37.4 s	14.8 s	48.2 s
 Ø5	 Ø6 (R)	 Ø7	 Ø8
22 s	35 s	28 s	35 s

Timings
2: Meridian Road & Eastonville Road

Total Traffic Volumes
AM Peak Hour - Year 2040

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 							  			  	
Traffic Volume (vph)	134	61	197	144	71	54	276	573	60	165	1855	108
Future Volume (vph)	134	61	197	144	71	54	276	573	60	165	1855	108
Satd. Flow (prot)	3433	1863	1583	1770	1863	1583	1770	5085	1583	1770	5085	1583
Flt Permitted	0.650			0.714			0.065			0.405		
Satd. Flow (perm)	2349	1863	1583	1330	1863	1583	121	5085	1583	754	5085	1583
Satd. Flow (RTOR)			255			255			177			245
Lane Group Flow (vph)	146	66	214	157	77	59	300	623	65	179	2016	117
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	8.0	8.0	5.0	8.0	8.0	5.0	15.0	15.0	5.0	15.0	15.0
Minimum Split (s)	12.5	14.5	14.5	12.5	14.5	14.5	12.5	22.5	22.5	13.5	22.5	22.5
Total Split (s)	13.0	15.5	15.5	15.6	18.1	18.1	27.2	70.9	70.9	18.0	61.7	61.7
Total Split (%)	10.8%	12.9%	12.9%	13.0%	15.1%	15.1%	22.7%	59.1%	59.1%	15.0%	51.4%	51.4%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	5.5	5.5	5.0	5.5	5.5
All-Red Time (s)	3.5	2.5	2.5	3.5	2.5	2.5	3.5	2.0	2.0	3.5	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.5	6.5	6.5	7.5	6.5	6.5	7.5	7.5	7.5	8.5	7.5	7.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Act Effct Green (s)	15.2	8.6	8.6	16.4	10.7	10.7	81.4	64.3	64.3	63.7	55.8	55.8
Actuated g/C Ratio	0.13	0.07	0.07	0.14	0.09	0.09	0.68	0.54	0.54	0.53	0.46	0.46
v/c Ratio	0.39	0.49	0.61	0.74	0.46	0.16	0.89	0.23	0.07	0.38	0.85	0.14
Control Delay	44.9	66.5	10.9	67.0	61.0	0.9	78.1	2.8	0.1	20.8	54.6	4.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	44.9	66.5	10.9	67.0	61.0	0.9	78.1	2.8	0.1	20.8	54.6	4.8
LOS	D	E	B	E	E	A	E	A	A	C	D	A
Approach Delay		31.2			52.1			25.5			49.4	
Approach LOS		C			D			C			D	
Queue Length 50th (ft)	49	50	0	108	57	0	183	13	0	101	599	3
Queue Length 95th (ft)	79	98	42	#182	108	0	#336	16	m0	m141	661	m30
Internal Link Dist (ft)		323			570			1159			643	
Turn Bay Length (ft)	100		100	100		100	100		400	375		400
Base Capacity (vph)	377	139	354	211	180	383	352	2725	930	484	2362	866
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.39	0.47	0.60	0.74	0.43	0.15	0.85	0.23	0.07	0.37	0.85	0.14

Intersection Summary











Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 45 (38%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 90
 Control Type: Actuated-Coordinated

Timings
 2: Meridian Road & Eastonville Road

Total Traffic Volumes
 AM Peak Hour - Year 2040

Maximum v/c Ratio: 0.89
 Intersection Signal Delay: 41.8 Intersection LOS: D
 Intersection Capacity Utilization 83.7% ICU Level of Service E
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: Meridian Road & Eastonville Road

 Ø1	 Ø2 (R)		 Ø3	 Ø4
18 s	70.9 s		15.6 s	15.5 s
 Ø5	 Ø6 (R)		 Ø7	 Ø8
27.2 s	61.7 s		13 s	18.1 s

Timings
3: Meridian Road & Bent Grass Meadows Drive

Total Traffic Volumes
AM Peak Hour - Year 2040



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	173	129	98	656	1980	192
Future Volume (vph)	173	129	98	656	1980	192
Satd. Flow (prot)	3433	1583	1770	5085	5085	1583
Flt Permitted	0.950		0.047			
Satd. Flow (perm)	3433	1583	88	5085	5085	1583
Satd. Flow (RTOR)		140				209
Lane Group Flow (vph)	188	140	107	713	2152	209
Turn Type	Prot	Perm	pm+pt	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases		4	2			6
Detector Phase	4	4	5	2	6	6
Switch Phase						
Minimum Initial (s)	8.0	8.0	5.0	15.0	15.0	15.0
Minimum Split (s)	15.5	15.5	13.5	22.5	22.5	22.5
Total Split (s)	21.0	21.0	21.0	99.0	78.0	78.0
Total Split (%)	17.5%	17.5%	17.5%	82.5%	65.0%	65.0%
Yellow Time (s)	4.0	4.0	5.0	5.5	5.5	5.5
All-Red Time (s)	3.5	3.5	3.5	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.5	7.5	8.5	7.5	7.5	7.5
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Recall Mode	None	None	None	C-Max	C-Max	C-Max
Act Effct Green (s)	11.5	11.5	92.5	93.5	76.4	76.4
Actuated g/C Ratio	0.10	0.10	0.77	0.78	0.64	0.64
v/c Ratio	0.57	0.50	0.57	0.18	0.67	0.19
Control Delay	58.6	14.7	39.0	0.9	15.6	1.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	58.6	14.7	39.0	0.9	15.6	1.8
LOS	E	B	D	A	B	A
Approach Delay	39.8			5.9	14.4	
Approach LOS	D			A	B	
Queue Length 50th (ft)	72	0	32	7	353	0
Queue Length 95th (ft)	110	60	74	16	469	31
Internal Link Dist (ft)	323			1273	472	
Turn Bay Length (ft)	160		700			330
Base Capacity (vph)	386	302	242	3960	3235	1083
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.49	0.46	0.44	0.18	0.67	0.19

Intersection Summary

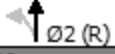

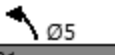
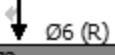
Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 95 (79%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 65
 Control Type: Actuated-Coordinated

Timings
3: Meridian Road & Bent Grass Meadows Drive

Total Traffic Volumes
 AM Peak Hour - Year 2040

Maximum v/c Ratio: 0.67	
Intersection Signal Delay: 14.8	Intersection LOS: B
Intersection Capacity Utilization 69.9%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 3: Meridian Road & Bent Grass Meadows Drive

 Ø2 (R) 99 s		 Ø4 21 s	
 Ø5 21 s	 Ø6 (R) 78 s		

HCM 6th TWSC
4: Meridian Road & Owl Place

Total Traffic Volumes
AM Peak Hour - Year 2040

Intersection						
Int Delay, s/veh	0.3					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↑↑↑	↑↑↑	↗
Traffic Vol, veh/h	0	53	0	817	2074	53
Future Vol, veh/h	0	53	0	817	2074	53
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	58	0	888	2254	58

Major/Minor	Minor2	Major1	Major2		
Conflicting Flow All	-	1127	-	0	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	7.14	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	-	3.92	-	-	-
Pot Cap-1 Maneuver	0	*443	0	-	-
Stage 1	0	-	0	-	-
Stage 2	0	-	0	-	-
Platoon blocked, %		1		-	-
Mov Cap-1 Maneuver	-	*443	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	14.3	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	443	-	-
HCM Lane V/C Ratio	-	0.13	-	-
HCM Control Delay (s)	-	14.3	-	-
HCM Lane LOS	-	B	-	-
HCM 95th %tile Q(veh)	-	0.4	-	-

Notes
 ~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

HCM 6th TWSC
 5: Meridian Park Drive & Bent Grass Meadows Drive

Total Traffic Volumes
 AM Peak Hour - Year 2040

Intersection						
Int Delay, s/veh	6.7					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗	↘	↑	↘	
Traffic Vol, veh/h	84	27	198	92	25	223
Future Vol, veh/h	84	27	198	92	25	223
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	150	195	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	91	29	215	100	27	242

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	120	0	621 91
Stage 1	-	-	-	-	91 -
Stage 2	-	-	-	-	530 -
Critical Hdwy	-	-	4.12	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	-	-	2.218	-	3.518 3.318
Pot Cap-1 Maneuver	-	-	1468	-	451 967
Stage 1	-	-	-	-	933 -
Stage 2	-	-	-	-	590 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1468	-	385 967
Mov Cap-2 Maneuver	-	-	-	-	385 -
Stage 1	-	-	-	-	933 -
Stage 2	-	-	-	-	504 -

Approach	EB	WB	NB
HCM Control Delay, s	0	5.4	11.3
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	839	-	-	1468	-
HCM Lane V/C Ratio	0.321	-	-	0.147	-
HCM Control Delay (s)	11.3	-	-	7.9	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	1.4	-	-	0.5	-

HCM 6th Roundabout
 6: Falcon Market Place/Meridian Park Drive & Eastonville Road

Total Traffic Volumes
 AM Peak Hour - Year 2040

Intersection			
Intersection Delay, s/veh	5.5		
Intersection LOS	A		
Approach	WB	NB	SB
Entry Lanes	1	1	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	494	189	193
Demand Flow Rate, veh/h	504	193	197
Vehicles Circulating, veh/h	0	197	246
Vehicles Exiting, veh/h	390	246	258
Ped Vol Crossing Leg, #/h	0	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	6.0	4.8	5.1
Approach LOS	A	A	A
Lane	Left	Left	Left
Designated Moves	LR	TR	LT
Assumed Moves	LR	TR	LT
RT Channelized			
Lane Util	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976
Entry Flow, veh/h	504	193	197
Cap Entry Lane, veh/h	1380	1129	1074
Entry HV Adj Factor	0.980	0.979	0.980
Flow Entry, veh/h	494	189	193
Cap Entry, veh/h	1352	1105	1052
V/C Ratio	0.365	0.171	0.183
Control Delay, s/veh	6.0	4.8	5.1
LOS	A	A	A
95th %tile Queue, veh	2	1	1

HCM 6th TWSC
7: Meridian Park Drive & Owl Place

Total Traffic Volumes
AM Peak Hour - Year 2040

Intersection												
Int Delay, s/veh	9.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↕			↕			↕			↕		
Traffic Vol, veh/h	0	9	0	50	3	0	8	96	44	0	50	0
Future Vol, veh/h	0	9	0	50	3	0	8	96	44	0	50	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	10	0	54	3	0	9	104	48	0	54	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	3	0	0	10	0	0	148	121	10	197	121	3
Stage 1	-	-	-	-	-	-	10	10	-	111	111	-
Stage 2	-	-	-	-	-	-	138	111	-	86	10	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1619	-	-	1610	-	-	820	769	1071	762	769	1081
Stage 1	-	-	-	-	-	-	1011	887	-	894	804	-
Stage 2	-	-	-	-	-	-	865	804	-	922	887	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1619	-	-	1610	-	-	754	743	1071	633	743	1081
Mov Cap-2 Maneuver	-	-	-	-	-	-	754	743	-	633	743	-
Stage 1	-	-	-	-	-	-	1011	887	-	894	777	-
Stage 2	-	-	-	-	-	-	777	777	-	777	887	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			6.9			10.5			10.2		
HCM LOS							B			B		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	818	1619	-	-	1610	-	-	743
HCM Lane V/C Ratio	0.197	-	-	-	0.034	-	-	0.073
HCM Control Delay (s)	10.5	0	-	-	7.3	0	-	10.2
HCM Lane LOS	B	A	-	-	A	A	-	B
HCM 95th %tile Q(veh)	0.7	0	-	-	0.1	-	-	0.2

HCM 6th TWSC
8: Meridian Park Drive & Access A

Total Traffic Volumes
AM Peak Hour - Year 2040

Intersection						
Int Delay, s/veh	0					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	T		T		T	
Traffic Vol, veh/h	0	0	148	0	0	100
Future Vol, veh/h	0	0	148	0	0	100
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	161	0	0	109

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	270	161	0	0	161
Stage 1	161	-	-	-	-
Stage 2	109	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218
Pot Cap-1 Maneuver	719	884	-	-	1418
Stage 1	868	-	-	-	-
Stage 2	916	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	719	884	-	-	1418
Mov Cap-2 Maneuver	719	-	-	-	-
Stage 1	868	-	-	-	-
Stage 2	916	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	1418	-
HCM Lane V/C Ratio	-	-	-	-
HCM Control Delay (s)	-	-	0	0
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0	0

HCM 6th TWSC
9: Meridian Park Drive & Access B

Total Traffic Volumes
AM Peak Hour - Year 2040

Intersection						
Int Delay, s/veh	4.8					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	T		T		T	
Traffic Vol, veh/h	80	79	69	117	49	51
Future Vol, veh/h	80	79	69	117	49	51
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	87	86	75	127	53	55

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	300	139	0	0	202
Stage 1	139	-	-	-	-
Stage 2	161	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218
Pot Cap-1 Maneuver	691	909	-	-	1370
Stage 1	888	-	-	-	-
Stage 2	868	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	663	909	-	-	1370
Mov Cap-2 Maneuver	663	-	-	-	-
Stage 1	888	-	-	-	-
Stage 2	833	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.1	0	3.8
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	766	1370
HCM Lane V/C Ratio	-	-	0.226	0.039
HCM Control Delay (s)	-	-	11.1	7.7
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.9	0.1

HCM 6th TWSC
 10: Meridian Park Drive & Access C

Total Traffic Volumes
 AM Peak Hour - Year 2040

Intersection						
Int Delay, s/veh	4.2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	T		T		T	
Traffic Vol, veh/h	92	58	128	105	45	86
Future Vol, veh/h	92	58	128	105	45	86
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	100	63	139	114	49	93

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	387	196	0	0	253
Stage 1	196	-	-	-	-
Stage 2	191	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218
Pot Cap-1 Maneuver	616	845	-	-	1312
Stage 1	837	-	-	-	-
Stage 2	841	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	592	845	-	-	1312
Mov Cap-2 Maneuver	592	-	-	-	-
Stage 1	837	-	-	-	-
Stage 2	808	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.1	0	2.7
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	670	1312
HCM Lane V/C Ratio	-	-	0.243	0.037
HCM Control Delay (s)	-	-	12.1	7.8
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	1	0.1

Timings
1: Meridian Road & E Woodmen Road

Total Traffic Volumes
PM Peak Hour - Year 2040

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1042	708	240	168	545	261	308	1072	159	262	709	625
Future Volume (vph)	1042	708	240	168	545	261	308	1072	159	262	709	625
Satd. Flow (prot)	3433	3539	1583	3433	3539	1583	3433	5085	1583	3433	5085	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	3539	1583	3433	3539	1583	3433	5085	1583	3433	5085	1583
Satd. Flow (RTOR)			314			250			314			679
Lane Group Flow (vph)	1133	770	261	183	592	284	335	1165	173	285	771	679
Turn Type	Prot	NA	Free	Prot	NA	Perm	Prot	NA	Free	Prot	NA	Free
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			Free			8			Free			Free
Detector Phase	7	4		3	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	15.0	15.0	5.0	15.0		5.0	15.0	
Minimum Split (s)	12.5	22.0		12.5	22.0	22.0	13.5	22.0		13.5	22.0	
Total Split (s)	43.0	48.1		18.9	24.0	24.0	21.3	35.0		18.0	31.7	
Total Split (%)	35.8%	40.1%		15.8%	20.0%	20.0%	17.8%	29.2%		15.0%	26.4%	
Yellow Time (s)	4.0	5.0		4.0	5.0	5.0	5.0	5.0		5.0	5.0	
All-Red Time (s)	3.5	2.0		3.5	2.0	2.0	3.5	2.0		3.5	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	7.5	7.0		7.5	7.0	7.0	8.5	7.0		8.5	7.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None	None	None	C-Max		None	C-Max	
Act Effct Green (s)	35.5	41.9	120.0	10.6	17.0	17.0	12.8	28.0	120.0	9.5	24.7	120.0
Actuated g/C Ratio	0.30	0.35	1.00	0.09	0.14	0.14	0.11	0.23	1.00	0.08	0.21	1.00
v/c Ratio	1.12	0.62	0.16	0.60	1.18	0.65	0.92	0.98	0.11	1.05	0.74	0.43
Control Delay	105.4	35.4	0.2	61.3	145.4	16.4	83.2	68.1	0.1	108.0	64.2	5.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	105.4	35.4	0.2	61.3	145.4	16.4	83.2	68.1	0.1	108.0	64.2	5.4
LOS	F	D	A	E	F	B	F	E	A	F	E	A
Approach Delay		67.8			96.3			64.1			48.4	
Approach LOS		E			F			E			D	
Queue Length 50th (ft)	~519	262	0	71	~289	23	134	330	0	~127	229	126
Queue Length 95th (ft)	#651	330	0	109	#406	113	#221	#432	0	#220	276	161
Internal Link Dist (ft)		1105			882			544			1159	
Turn Bay Length (ft)	720			440			420			460		460
Base Capacity (vph)	1015	1235	1583	326	501	438	366	1186	1583	271	1046	1583
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.12	0.62	0.16	0.56	1.18	0.65	0.92	0.98	0.11	1.05	0.74	0.43

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 37 (31%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 150
 Control Type: Actuated-Coordinated

Timings
 1: Meridian Road & E Woodmen Road

Total Traffic Volumes
 PM Peak Hour - Year 2040

Maximum v/c Ratio: 1.18

Intersection Signal Delay: 66.3

Intersection LOS: E

Intersection Capacity Utilization 97.6%

ICU Level of Service F

Analysis Period (min) 15











~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.






























Queue shown is maximum after two cycles.

Splits and Phases: 1: Meridian Road & E Woodmen Road

 Ø1	 Ø2 (R)		 Ø3	 Ø4
18 s	35 s		18.9 s	48.1 s
 Ø5	 Ø6 (R)		 Ø7	 Ø8
21.3 s	31.7 s		43 s	24 s

Timings
2: Meridian Road & Eastonville Road

Total Traffic Volumes
PM Peak Hour - Year 2040

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 							  			  	
Traffic Volume (vph)	260	145	212	47	100	200	362	1826	173	123	1188	110
Future Volume (vph)	260	145	212	47	100	200	362	1826	173	123	1188	110
Satd. Flow (prot)	3433	1863	1583	1770	1863	1583	1770	5085	1583	1770	5085	1583
Flt Permitted	0.529			0.654			0.099			0.089		
Satd. Flow (perm)	1912	1863	1583	1218	1863	1583	184	5085	1583	166	5085	1583
Satd. Flow (RTOR)			255			255			188			245
Lane Group Flow (vph)	283	158	230	51	109	217	393	1985	188	134	1291	120
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	8.0	8.0	5.0	8.0	8.0	5.0	15.0	15.0	5.0	15.0	15.0
Minimum Split (s)	12.5	14.5	14.5	12.5	14.5	14.5	12.5	22.5	22.5	13.5	22.5	22.5
Total Split (s)	15.0	22.0	22.0	12.6	19.6	19.6	38.0	66.4	66.4	19.0	47.4	47.4
Total Split (%)	12.5%	18.3%	18.3%	10.5%	16.3%	16.3%	31.7%	55.3%	55.3%	15.8%	39.5%	39.5%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	5.5	5.5	5.0	5.5	5.5
All-Red Time (s)	3.5	2.5	2.5	3.5	2.5	2.5	3.5	2.0	2.0	3.5	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.5	6.5	6.5	7.5	6.5	6.5	7.5	7.5	7.5	8.5	7.5	7.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Act Effct Green (s)	21.5	16.5	16.5	15.7	11.6	11.6	79.4	61.7	61.7	54.5	46.3	46.3
Actuated g/C Ratio	0.18	0.14	0.14	0.13	0.10	0.10	0.66	0.51	0.51	0.45	0.39	0.39
v/c Ratio	0.65	0.62	0.53	0.28	0.61	0.57	0.86	0.76	0.21	0.68	0.66	0.16
Control Delay	48.8	60.8	8.6	42.3	66.1	9.1	41.2	10.0	0.4	38.6	52.5	7.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	48.8	60.8	8.6	42.3	66.1	9.1	41.2	10.0	0.4	38.6	52.5	7.8
LOS	D	E	A	D	E	A	D	A	A	D	D	A
Approach Delay		37.9			30.1			14.1			47.9	
Approach LOS		D			C			B			D	
Queue Length 50th (ft)	95	118	0	32	81	0	183	365	0	67	386	12
Queue Length 95th (ft)	137	#195	54	67	142	44	m172	m346	m0	#132	439	44
Internal Link Dist (ft)		323			570			1159			643	
Turn Bay Length (ft)	100		100	100		100	100		400	375		400
Base Capacity (vph)	438	263	443	183	203	399	524	2615	905	217	1961	761
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.65	0.60	0.52	0.28	0.54	0.54	0.75	0.76	0.21	0.62	0.66	0.16

Intersection Summary











Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 89 (74%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 90
 Control Type: Actuated-Coordinated

Timings
 2: Meridian Road & Eastonville Road

Total Traffic Volumes
 PM Peak Hour - Year 2040

Maximum v/c Ratio: 0.86
 Intersection Signal Delay: 28.5 Intersection LOS: C
 Intersection Capacity Utilization 80.6% ICU Level of Service D
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: Meridian Road & Eastonville Road

 Ø1	 Ø2 (R)		 Ø3	 Ø4
19 s	66.4 s		12.6 s	22 s
 Ø5	 Ø6 (R)		 Ø7	 Ø8
38 s	47.4 s		15 s	19.6 s

Timings
3: Meridian Road & Bent Grass Meadows Drive

Total Traffic Volumes
PM Peak Hour - Year 2040



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	187	108	93	2254	1285	174
Future Volume (vph)	187	108	93	2254	1285	174
Satd. Flow (prot)	3433	1583	1770	5085	5085	1583
Flt Permitted	0.950		0.142			
Satd. Flow (perm)	3433	1583	265	5085	5085	1583
Satd. Flow (RTOR)		117				189
Lane Group Flow (vph)	203	117	101	2450	1397	189
Turn Type	Prot	Perm	pm+pt	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases		4	2			6
Detector Phase	4	4	5	2	6	6
Switch Phase						
Minimum Initial (s)	8.0	8.0	5.0	15.0	15.0	15.0
Minimum Split (s)	15.5	15.5	13.5	22.5	22.5	22.5
Total Split (s)	24.0	24.0	21.0	96.0	75.0	75.0
Total Split (%)	20.0%	20.0%	17.5%	80.0%	62.5%	62.5%
Yellow Time (s)	4.0	4.0	5.0	5.5	5.5	5.5
All-Red Time (s)	3.5	3.5	3.5	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.5	7.5	8.5	7.5	7.5	7.5
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Recall Mode	None	None	None	C-Max	C-Max	C-Max
Act Effct Green (s)	12.4	12.4	91.6	92.6	76.8	76.8
Actuated g/C Ratio	0.10	0.10	0.76	0.77	0.64	0.64
v/c Ratio	0.57	0.44	0.34	0.62	0.43	0.17
Control Delay	57.5	13.8	3.4	2.9	11.6	1.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	57.5	13.8	3.4	2.9	11.6	1.8
LOS	E	B	A	A	B	A
Approach Delay	41.5			2.9	10.4	
Approach LOS	D			A	B	
Queue Length 50th (ft)	78	0	2	16	182	0
Queue Length 95th (ft)	114	55	m3	17	242	29
Internal Link Dist (ft)	323			1273	472	
Turn Bay Length (ft)	160		700			330
Base Capacity (vph)	472	318	359	3923	3255	1081
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.43	0.37	0.28	0.62	0.43	0.17

Intersection Summary
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 28 (23%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 60
 Control Type: Actuated-Coordinated

Timings
3: Meridian Road & Bent Grass Meadows Drive

Total Traffic Volumes
 PM Peak Hour - Year 2040

Maximum v/c Ratio: 0.62

Intersection Signal Delay: 8.4

Intersection LOS: A





Intersection Capacity Utilization 62.7%

ICU Level of Service B

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: Meridian Road & Bent Grass Meadows Drive

 Ø2 (R)		 Ø4	
96 s		24 s	
 Ø5	 Ø6 (R)		
21 s	75 s		

HCM 6th TWSC
4: Meridian Road & Owl Place

Total Traffic Volumes
PM Peak Hour - Year 2040

Intersection						
Int Delay, s/veh	0.2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↑↑↑	↑↑↑	↗
Traffic Vol, veh/h	0	63	0	2327	1359	47
Future Vol, veh/h	0	63	0	2327	1359	47
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	68	0	2529	1477	51

Major/Minor	Minor2	Major1	Major2		
Conflicting Flow All	-	739	-	0	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	7.14	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	-	3.92	-	-	-
Pot Cap-1 Maneuver	0	*614	0	-	-
Stage 1	0	-	0	-	-
Stage 2	0	-	0	-	-
Platoon blocked, %		1		-	-
Mov Cap-1 Maneuver	-	*614	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.6	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	614	-	-
HCM Lane V/C Ratio	-	0.112	-	-
HCM Control Delay (s)	-	11.6	-	-
HCM Lane LOS	-	B	-	-
HCM 95th %tile Q(veh)	-	0.4	-	-

Notes
 ~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

HCM 6th TWSC
 5: Meridian Park Drive & Bent Grass Meadows Drive

Total Traffic Volumes
 PM Peak Hour - Year 2040

Intersection						
Int Delay, s/veh	6.8					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗	↘	↑	↘	
Traffic Vol, veh/h	98	29	164	95	30	241
Future Vol, veh/h	98	29	164	95	30	241
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	150	195	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	107	32	178	103	33	262

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	139	0	566
Stage 1	-	-	-	-	107
Stage 2	-	-	-	-	459
Critical Hdwy	-	-	4.12	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	-	-	2.218	-	3.518
Pot Cap-1 Maneuver	-	-	1445	-	486
Stage 1	-	-	-	-	917
Stage 2	-	-	-	-	636
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1445	-	426
Mov Cap-2 Maneuver	-	-	-	-	426
Stage 1	-	-	-	-	917
Stage 2	-	-	-	-	558

Approach	EB	WB	NB
HCM Control Delay, s	0	5	11.7
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	834	-	-	1445	-
HCM Lane V/C Ratio	0.353	-	-	0.123	-
HCM Control Delay (s)	11.7	-	-	7.8	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	1.6	-	-	0.4	-

HCM 6th Roundabout
 6: Falcon Market Place/Meridian Park Drive & Eastonville Road

Total Traffic Volumes
 PM Peak Hour - Year 2040

Intersection			
Intersection Delay, s/veh	7.3		
Intersection LOS	A		
Approach	WB	NB	SB
Entry Lanes	1	1	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	621	508	163
Demand Flow Rate, veh/h	634	518	166
Vehicles Circulating, veh/h	0	166	386
Vehicles Exiting, veh/h	684	386	248
Ped Vol Crossing Leg, #/h	0	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	7.2	7.9	5.7
Approach LOS	A	A	A
Lane	Left	Left	Left
Designated Moves	LR	TR	LT
Assumed Moves	LR	TR	LT
RT Channelized			
Lane Util	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976
Entry Flow, veh/h	634	518	166
Cap Entry Lane, veh/h	1380	1165	931
Entry HV Adj Factor	0.979	0.981	0.982
Flow Entry, veh/h	621	508	163
Cap Entry, veh/h	1352	1142	914
V/C Ratio	0.459	0.445	0.178
Control Delay, s/veh	7.2	7.9	5.7
LOS	A	A	A
95th %tile Queue, veh	2	2	1

HCM 6th TWSC
7: Meridian Park Drive & Owl Place

Total Traffic Volumes
PM Peak Hour - Year 2040

Intersection												
Int Delay, s/veh	9.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↕			↕			↕			↕		
Traffic Vol, veh/h	0	11	0	41	6	0	17	91	52	0	51	0
Future Vol, veh/h	0	11	0	41	6	0	17	91	52	0	51	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	12	0	45	7	0	18	99	57	0	55	0

Major/Minor	Major1		Major2		Minor1		Minor2					
Conflicting Flow All	7	0	0	12	0	0	137	109	12	187	109	7
Stage 1	-	-	-	-	-	-	12	12	-	97	97	-
Stage 2	-	-	-	-	-	-	125	97	-	90	12	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1614	-	-	1607	-	-	834	781	1069	774	781	1075
Stage 1	-	-	-	-	-	-	1009	886	-	910	815	-
Stage 2	-	-	-	-	-	-	879	815	-	917	886	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1614	-	-	1607	-	-	771	759	1069	646	759	1075
Mov Cap-2 Maneuver	-	-	-	-	-	-	771	759	-	646	759	-
Stage 1	-	-	-	-	-	-	1009	886	-	910	792	-
Stage 2	-	-	-	-	-	-	795	792	-	772	886	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	0		6.4		10.4		10.1	
HCM LOS					B		B	

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	840	1614	-	-	1607	-	-	759
HCM Lane V/C Ratio	0.207	-	-	-	0.028	-	-	0.073
HCM Control Delay (s)	10.4	0	-	-	7.3	0	-	10.1
HCM Lane LOS	B	A	-	-	A	A	-	B
HCM 95th %tile Q(veh)	0.8	0	-	-	0.1	-	-	0.2

HCM 6th TWSC
8: Meridian Park Drive & Access A

Total Traffic Volumes
PM Peak Hour - Year 2040

Intersection						
Int Delay, s/veh	1.8					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	T		T		T	
Traffic Vol, veh/h	4	35	125	22	17	75
Future Vol, veh/h	4	35	125	22	17	75
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	4	38	136	24	18	82

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	266	148	0	0	160
Stage 1	148	-	-	-	-
Stage 2	118	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218
Pot Cap-1 Maneuver	723	899	-	-	1419
Stage 1	880	-	-	-	-
Stage 2	907	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	714	899	-	-	1419
Mov Cap-2 Maneuver	714	-	-	-	-
Stage 1	880	-	-	-	-
Stage 2	895	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.3	0	1.4
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	876	1419
HCM Lane V/C Ratio	-	-	0.048	0.013
HCM Control Delay (s)	-	-	9.3	7.6
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0.2	0

HCM 6th TWSC
9: Meridian Park Drive & Access B

Total Traffic Volumes
PM Peak Hour - Year 2040

Intersection						
Int Delay, s/veh	3.3					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	T		T		T	
Traffic Vol, veh/h	47	46	101	72	26	53
Future Vol, veh/h	47	46	101	72	26	53
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	51	50	110	78	28	58

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	263	149	0	0	188
Stage 1	149	-	-	-	-
Stage 2	114	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218
Pot Cap-1 Maneuver	726	898	-	-	1386
Stage 1	879	-	-	-	-
Stage 2	911	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	711	898	-	-	1386
Mov Cap-2 Maneuver	711	-	-	-	-
Stage 1	879	-	-	-	-
Stage 2	892	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.2	0	2.5
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	793	1386
HCM Lane V/C Ratio	-	-	0.127	0.02
HCM Control Delay (s)	-	-	10.2	7.7
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.4	0.1

HCM 6th TWSC
 10: Meridian Park Drive & Access C

Total Traffic Volumes
 PM Peak Hour - Year 2040

Intersection						
Int Delay, s/veh	4.2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	T		T		T	
Traffic Vol, veh/h	90	54	119	105	40	60
Future Vol, veh/h	90	54	119	105	40	60
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	98	59	129	114	43	65

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	337	186	0	0	243
Stage 1	186	-	-	-	-
Stage 2	151	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218
Pot Cap-1 Maneuver	658	856	-	-	1323
Stage 1	846	-	-	-	-
Stage 2	877	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	636	856	-	-	1323
Mov Cap-2 Maneuver	636	-	-	-	-
Stage 1	846	-	-	-	-
Stage 2	847	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.6	0	3.1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	704	1323
HCM Lane V/C Ratio	-	-	0.222	0.033
HCM Control Delay (s)	-	-	11.6	7.8
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.8	0.1

APPENDIX E

Conceptual Site Distance Exhibit

Owl Place

Falcon Market Place

Meridian Road

Eastonville Road

150'

150'

150'

150'

150'

150'

Access A

Access B

Access C

LOT 1
1.24 ACRES

LOT 2
0.67 ACRES

LOT 3
1.20 ACRES

LOT 4
1.49 ACRES

FYI: to allow these access points on the assumed posted 25mph collector roadway the access spacing per ECM table 2-35 would be 325' to 425' depending on the design vehicle (single unit to multi-unit trucks).

Noted.

LEGEND

- Blue circle: Areas Within Site Distance Triangle
- Red circle: That Should Avoid Obstructions
- Green circle: That Should Avoid Obstructions



OWL PLACE COMMERCIAL
Intersection Sight Distance Exhibit
SM ROCHA, LLC
Traffic and Transportation Consultants

Noted.

Note: Deviations would need to be approved to allow these access points.

January 2023

